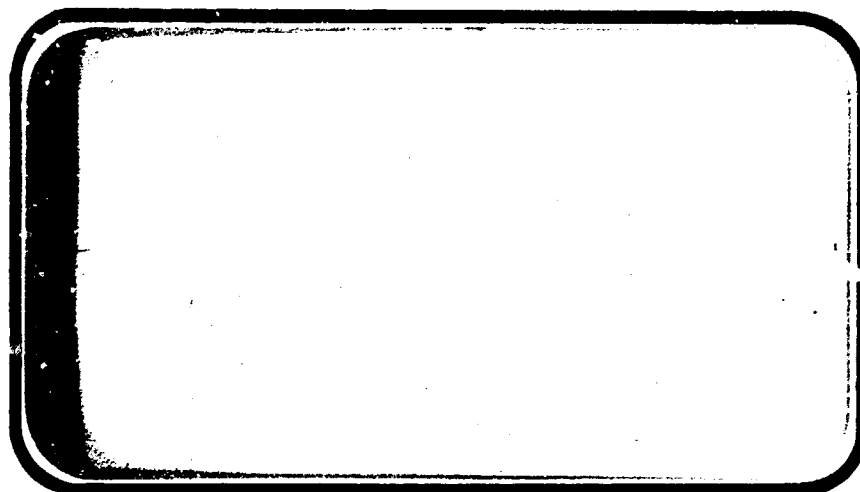


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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services

SPACE DIVISION



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VOLUME II

EXPERIMENTAL INVESTIGATIONS OF AN 0.0405 SCALE
SPACE SHUTTLE CONFIGURATION 3 ORBITER TO
DETERMINE SUBSONIC STABILITY CHARACTERISTICS
(OA21A/OA21B)

By

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Prepared under NASA Contract Number NAS9-13247

by

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for

Engineering Analysis Division
Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL SPECIFICS:

Test Number: NAAL 705
NASA Series No.: OA21A/OA21B
Test Date: 21 May - 25 June, 1973
Model: 43-0

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Chrysler Corporation Space Division assumes no responsibility for
the data presented herein other than its display characteristics.

EXPERIMENTAL INVESTIGATIONS OF AN 0.0405 SCALE
SPACE SHUTTLE CONFIGURATION 3 ORBITER TO
DETERMINE SUBSONIC STABILITY CHARACTERISTICS (OA21A/OA21B)

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B. W. Cameron and A. J. Ritschel
Rockwell International

ABSTRACT

Experimental aerodynamic investigations were conducted in the MAAL Low Speed Wind Tunnel from May 21 through June 4 and from June 18 through June 25, 1973 on a 0.0405 scale -139B model Space Shuttle Vehicle (SSV) orbiter. The purpose of the test was to investigate the longitudinal and lateral-directional subsonic aerodynamic characteristics of the Rockwell International proposed PRR Space Shuttle Orbiter. Emphasis was placed on component buildup effects, elevon, rudder, body flaps, rudder flare effectiveness, and canard and speed brake development.

Angles of attack from -4° to 24° and angles of sideslip of -10° to 10° were tested. Static pressures were recorded on the base.

The aerodynamic force balance results are presented in plotted and tabular form.

DMS-DR-2053 will be published in two volumes. Data for NASA Series No. OA21A will be published as volume I and OA21B as volume II.

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- A) CL, L/DF, CAF, CAB, CN, XCP/L, CLM vs. ALPHA
CL vs. CDF, CL vs. CLM
- B) CYN, CBL, CY vs. BETA
- C) DCYNDR, DCBLDR, DCY/DR vs. ALPHA
- D) ALPHA vs. CYN, CBL, CY
- E) CYNBET, CBLBET, CYBETA vs. ALPHA
- F) DCYNDB, DCBLDB, DCY/DB vs. ALPHA

NOMENCLATURE
General

| <u>SYMBOL</u> | <u>SADSAC SYMBOL</u> | <u>DEFINITION</u> |
|---------------|--------------------------|---|
| a | | speed of sound; m/sec, ft/sec |
| C_p | CP | pressure coefficient; $(p_1 - p_\infty)/q$ |
| M | MACH | Mach number; V/a |
| P | | pressure; N/m^2 , psf |
| q | Q(NSM) Q(PSF) | dynamic pressure; $1/2\rho V^2$, N/m^2 , psf |
| RN/L | RN/L | unit Reynolds number; per m, per ft |
| V | | velocity; m/sec, ft/sec |
| α | ALPHA | angle of attack, degrees |
| β | BETA | angle of sideslip, degrees |
| ψ | PSI | angle of yaw, degrees |
| ϕ | PHI | angle of roll, degrees |
| ρ | | mass density; kg/m^3 , slugs/ft ³ |

Reference & C.G. Definitions

| | | |
|------------------------------|------|--|
| A_b | | base area; m^2 , ft^2 |
| b | BREF | wing span or reference span; m, ft |
| c.g. | | center of gravity |
| $\frac{l}{c}$ _{REF} | LREF | reference length or wing mean aerodynamic chord; m, ft |
| S | SREF | wing area or reference area; m^2 , ft^2 |
| | MRP | moment reference point |
| | XMRP | moment reference point on X axis |
| | YMRP | moment reference point on Y axis |
| | ZMRP | moment reference point on Z axis |

SUBSCRIPTS

| | |
|----------|--|
| b | base |
| l | local |
| s | static conditions |
| t | total conditions |
| ∞ | free stream |
| BC | balance chamber |
| T | weight tare |
| 1,2,---5 | condition at station No 1,2,---5, respectively |
| B | body |

NOMENCLATURE (Continued)

Body-Axis System

| <u>SYMBOL</u> | <u>SADSAC SYMBOL</u> | <u>DEFINITION</u> |
|---------------|--------------------------|---|
| C_N | CN | normal-force coefficient; $\frac{\text{normal force}}{qS}$ |
| C_A | CA | axial-force coefficient; $\frac{\text{axial force}}{qS}$ |
| C_Y | CY | side-force coefficient; $\frac{\text{side force}}{qS}$ |
| C_{A_b} | CAB | base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - P_\infty)/qS$ |
| C_{A_f} | CAF | forebody axial force coefficient, $C_A - C_{A_b}$ |
| C_m | CLM | pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$ |
| C_n | CYN | yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$ |
| C_l | CBL | rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$ |

Stability-Axis System

| | | |
|-----------|------|--|
| C_L | CL | lift coefficient; $\frac{\text{lift}}{qS}$ |
| C_D | CD | drag coefficient; $\frac{\text{drag}}{qS}$ |
| C_{D_b} | CDB | base-drag coefficient; $\frac{\text{base drag}}{qS}$ |
| C_{D_f} | CDF | forebody drag coefficient; $C_D - C_{D_b}$ |
| C_Y | CY | side-force coefficient; $\frac{\text{side force}}{qS}$ |
| C_m | CLM | pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$ |
| C_n | CLN | yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$ |
| C_l | CSL | rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$ |
| L/D | L/D | lift-to-drag ratio; C_L/C_D |
| L/D_f | L/DF | lift to forebody drag ratio; C_L/C_{D_f} |

NOMENCLATURE (CONTINUED)
ADDITIONS TO NOMENCLATURE

| <u>SYMBOL</u> | <u>SADSAC SYMBOL</u> | <u>DEFINITION</u> |
|-----------------|--------------------------|---|
| $C_{y\beta}$ | DCY/DB | side force coefficient derivative with respect to beta. Algebraic difference of the side force coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; per degree. |
| $C_{n\beta}$ | DCYNDB | yawing moment coefficient derivative with respect to beta. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; body axis system; per degree. |
| $C_{l\beta}$ | DCBLDB | rolling moment coefficient derivative with respect to beta. Algebraic difference of the rolling moment coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; body axis system; per degree. |
| $C_{y\delta_a}$ | DCY/DA | side force coefficient derivative with respect to total aileron deflection. Algebraic difference of the side force coefficients of two runs divided by deflection angle of the runs; per degree. |
| $C_{n\delta_a}$ | DCYNDA | yawing moment coefficient derivative with respect to total aileron deflection. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the total aileron deflection angle of the runs; body axis system; per degree. |
| $C_{l\delta_a}$ | DCBLDA | rolling moment coefficient derivative with respect to total aileron deflection. Algebraic difference of the rolling moment coefficient of two runs divided by the algebraic difference of the total aileron deflection angle of the runs; body axis system; per degree. |
| $C_{y\delta_r}$ | DCY/DR | side force coefficient derivative with respect to rudder deflection. Algebraic difference of the side force coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree. |

NOMENCLATURE (Continued)

| <u>SYMBOL</u> | <u>SADSAC SYMBOL</u> | <u>DEFINITION</u> |
|-----------------|--------------------------|---|
| $C_{n\delta_r}$ | DCYNDR | yawing moment coefficient derivative with respect to rudder deflection. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree. |
| $C_{l\delta_r}$ | DCBLDR | rolling moment coefficient derivative with respect to rudder deflection. Algebraic difference of the rolling moment coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree. |
| $C_{m\delta_e}$ | DCLMDE | pitching moment coefficient derivative with respect to elevon deflection. Algebraic difference of the pitching moment coefficient of two runs divided by the algebraic difference of the elevon deflection angles of the runs; per degree. |
| $C_{L\delta_e}$ | DCL/DE | lift coefficient derivative with respect to elevon deflection. Algebraic difference of the lift force coefficients of two runs divided by the algebraic difference of the elevon deflection angles of the runs; per degree. |
| XCP/l | XCP/L | longitudinal center of pressure location; fraction of body length. |
| δ_e | ELEVON | elevon, surface deflection angle, positive deflection, trailing edge down; degrees. |
| δ_a | AILRON | aileron, total aileron deflection angle, degrees, (left aileron - right aileron)/2. |
| δ_c | CANARD | canard, surface deflection angle, positive deflection, trailing edge down; degrees. |
| δ_{sb} | SFDBRK | speedbrake, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{rf} = (\delta_{rL} + \delta_{rR})/2$, positive deflection; degrees. |

NOMENCLATURE (CONCLUDED)

| <u>SYMBOL</u> | <u>SADSAC SYMBOL</u> | <u>DEFINITION</u> |
|--------------------|--------------------------|---|
| δ_{BF} | BDFLAP | body flap, surface deflection angle, positive deflection, trailing edge down; degrees. |
| δ_r | RUDDER | rudder, surface deflection angle, positive deflection trailing edge to the left; degrees. |
| $\Delta\delta_e$ | DELELE | algebraic difference of elevon deflection angle between two runs; degree. |
| $\delta_{e_{max}}$ | MAXELE | maximum elevon deflection angle between two runs; degree. |
| $\Delta\delta_a$ | DELAILE | algebraic difference of aileron deflection angle between two runs; degree. |
| $\delta_{a_{max}}$ | MAXAIL | maximum aileron deflection angle between two runs; degrees. |
| $\Delta\delta_r$ | DELRUD | algebraic difference of rudder deflection angle between two runs; degree. |
| $\delta_{r_{max}}$ | MAXRUD | maximum rudder deflection angle between two runs; degrees. |
| $\Delta\delta$ | DBETA | algebraic difference of the angle of sideslip between two runs; degrees. |
| δ_v | VTLINC | vertical tail inclination angle, positive when trailing edge left; degrees. |

CONFIGURATIONS INVESTIGATED

The model for this test was an 0.0405 scale - 139B representation of the Rockwell International PPR Space Shuttle Orbiter. The basic model is of the bended wing-body design utilizing a double delta wing and constructed around an aluminum balance block with a 4.250 inch diameter balance cavity. All large model components, i.e., body mold lines, wings etc., were constructed either of aluminum and/or wood and attached directly to the model balance block. The other components, i.e., speed brakes, canards, etc., were constructed of aluminum, wood, and/or template steel and attached to the fuselage.

The available model configuration variables were; vertical tail; vertical tail rudder and/or rudder flare capability; full span split elevons with unswept hingeline; removable canopy, body flap, orbital maneuvering system, and wings; and various speed brake and canard combinations.

The balance support system utilized for this test was the balance block sleeved for fit of the 2.5 inch MK IX internal balance and used with the NAAL sting support system.

The various model components tested are listed below. Table II delineates the configurations these components were tested in while Table III lists the pertinent dimensions of each component.

| <u>COMPONENT SYMBOL</u> | <u>DESCRIPTION</u> |
|---------------------------------------|--|
| B ₁₇ | -139 Baseline fuselage |
| B ₁₉ | -139B Baseline fuselage |
| B ₂₁ | Same as B ₁₉ except with an up cambered nose |
| C ₇ | -139B Baseline canopy |
| E ₂₃ | -139B Baseline elevon used on wing W ₁₀₇ |
| F ₅ | -139 Baseline body flap |
| F ₆ | Same as F ₅ but with an extended chord on top surface |
| H ₂ thru H ₇ , | Body mounted canards |
| H ₁₄ , and H ₁₅ | |

CONFIGURATIONS INVESTIGATED (Concluded)

| <u>COMPONENT SYMBOL</u> | <u>DESCRIPTION</u> |
|--|---|
| H ₈ thru H ₁₁ | Glove mounted canards |
| H ₁₂ , H ₁₃ , H ₁₆ thru | Glove apex mounted canards |
| H ₁₈ and H ₂₄ | |
| H ₂₃ , H ₂₅ | Nose mounted canards |
| M ₄ | -139B Baseline orbital maneuvering system (OMS) |
| R ₆ | -139B Baseline rudder used on vertical tail V ₇ |
| V ₇ | -139B Baseline all movable centerline vertical tail |
| W ₁₀₇ | -139B Baseline double delta wing, S _w = 2690 ft ² |
| W ₁₁₂ | Same as W ₁₀₇ except upper surface is straight line modified with clay |
| E ₂ | Top-wing brake |
| E ₃ | Main-gear door brake |
| E ₄ | OMS-mounted brake |
| E ₅ | Body-flare mounted brake |
| X ₉ | Grit strips |

TEST FACILITY DESCRIPTION

The Rockwell International (NAAL) Low Speed Wind Tunnel is a continuous flow, closed circuit facility with a 7.75 x 11 foot test section which is vented to atmospheric pressure. It is capable of speeds up to 200 miles per hour. Power is supplied by a 1250 horsepower nacelle-mounted synchronous motor driving a 19 foot diameter, 7-bladed laminated birch propeller. Air-speed is controlled by varying the degree of coupling between the motor and propeller by means of an electromagnetic clutch. A damping screen and honeycomb section in the settling chamber upstream of the contraction cone (7.53 to 1) minimizes turbulence in the test section.

Tests may be conducted using a variety of model mounting systems. These include single and double struts, sting support, reflection plane, cable suspension, and two-dimensional walls. Sting and strut support systems include both pitch and yaw positioning capability.

The dynamic pressure in the test section is calibrated in terms of the difference in static pressure as measured at the 27-foot and the 12-foot sections of the contraction cone upstream of the test section. These two static pressures are sensed by piezometer rings in the walls of the tunnel, and are connected to a pair of bellows in the "Q-balance", where the difference between the pressures is balanced against an adjustable weight, which is set for the desired tunnel velocity. Any unbalance is detected and indicated by a meter on the control console as a feedback to the tunnel operator, who manually controls the tunnel velocity. The meter signal, along with the output of pressure transducers connected

TEST FACILITY - Continued.

to the 12-foot and 27-foot piezometer rings, is also recorded by the data system described below.

The planar balance, which is located beneath the floor of the test section, is used for measuring aerodynamic forces on the model. It consists of four flexure-mounted linkage systems which isolate the forces acting on a model into three mutually-perpendicular forces, each having a moment acting about its axis. The small movement of the model due to each force and moment is mechanically amplified by a system of levers, detected optically, and counteracted by an electrodynamic coil and magnet assembly. The coil current required to balance each aerodynamic force provides the output signals. The entire planar balance, and therefore the force axis system, rotates in yaw with the model, resulting in measurements in the stability-axis system.

The electrical output of all instrumentation is recorded on magnetic tape by the ASTRODATA Data Acquisition System. This system can accept up to 50 channels of analog voltage input data, which is amplified and filtered as required. The 50 channels can be scanned at either of two rates; approximately 67 or 134 complete scans per second. Each signal is converted to a 14-bit digital word (including sign) and recorded on 7-track IBM-compatible tape. The tape is physically carried to the computer room on the mezzanine of the wind tunnel building, where the data are reduced to the desired form by a Data General Nova 820 computer.

DATA REDUCTION

The aerodynamic force and moment data presented were measured by the Task Corporation 2.5 inch MK IX strain gage balance. The data have been corrected for model base and balance chamber pressure effects, model blockage influence on tunnel dynamic pressure, wall interference effects, sting and balance deflections, and model weight tare.

The corrections to axial force were accomplished in the following manner:

$$C_{A_F} = C_A - C_{A_{BC}} - C_{A_b} - C_{A_T}$$

where:

$$C_{A_{BC}} = - \left(\frac{P_{BC} - P_s}{q} \right) \left(\frac{A_{BC}}{S} \right)$$

and:

$$C_{A_b} = - \left(\frac{P_b - P_s}{q} \right) \left(\frac{A_b}{S} \right) \quad P_b = 1/5 (P_{b1} + \dots + P_{b5})$$

$$C_{A_T} = \text{Model axial force weight tare}$$

The following reference dimensions were used for reducing the aerodynamic data to coefficient form:

| <u>Symbol</u> | <u>Definition</u> | <u>Value</u> | |
|-----------------|---|-------------------|--------------------|
| | | <u>Full Scale</u> | <u>Model Scale</u> |
| A_b | Area of base, ft ² (with OMS pods) | - | 0.570 |
| | (without OMS pods) | | 0.428 |
| A_{BC} | Area of balance cavity, ft ² | - | 0.0985 |
| S | Area of wing, ft ² | 2690.00 | 4.412 |
| XMRP | Center of gravity, fus. sta., in. | 1076.47 | 43.597 |
| | Center of gravity, aft of nose, in. | 838.47 | 33.958 |
| WMRP | Center of gravity, waterplane, in. | 400 | 16.200 |
| L_F | Length orbiter body, in. | 1290.30 | 52.257 |
| $c(LREF)$ | Wing MAC, in. | 474.81 | 19.230 |
| $\bar{b}(BREF)$ | Wing span, in. | 936.68 | 37.935 |

TEST : 0A21 - NAAL 705

TABLE I

DATE : 5/21-6/4/73

TEST CONDITIONS

[illegible]

BALANCE UTILIZED: TASK 2.5 INCH DIA. MK IX

| | CAPACITY: | ACCURACY: | COEFFICIENT TOLERANCE: |
|----|-----------------------------|-----------------------------|-----------------------------|
| NF | <u>3000 lbs.</u> | <u>± .25%</u> | <u> </u> |
| SF | <u>1500 lbs.</u> | <u>± .25%</u> | <u> </u> |
| AF | <u>200 lbs.</u> | <u>± .25%</u> | <u> </u> |
| PM | <u> </u> | <u> </u> | <u> </u> |
| RM | <u>4000 in. lbs.</u> | <u>± .25%</u> | <u> </u> |
| YM | <u> </u> | <u> </u> | <u> </u> |

COMMENTS:

TABLE II

TEST : ORZIA (NHAL 705)

DATE :

DATA SET / RUN NUMBER COLLATION SUMMARY

| DATA SET IDENTIFIER | CONFIGURATION | SCHD. | | PARAMETERS/VALUES | | | | | | | | NO. OF RUNS | MACH NUMBERS | |
|---------------------|--|----------|---------|-------------------|------------|------------|-------|----------|-------------|-------|-------|-------------|--------------|--|
| | | α | β | δE | δA | δV | S_R | ϕ_F | ϕ_{SB} | S_H | 0.165 | | 0.260 | |
| RDP001 | BorCnG WomEsrV R ₂ X ₂ | A | 0 | 0° | 0° | 0° | 0° | -18° | 55° | - | 1 | 1 | | |
| 02 | | O B | | | | | | | | | | 2 | | |
| 03 | | 10 | | | | | | | | | | 3 | | |
| 04 | | 15 | | | | | | | | | | 4 | | |
| 05 | | 20 | | | | | | | | | | 5 | | |
| 06 | | A | 0 | | | | | 0 | | | | 6 | | |
| 07 | | | | | | | | 10 | | | | 7 | | |
| 08 | | | | | | | | 15 | | | | 8 | | |
| 09 | | | | | | | | -18° | 0 | | | 9 | | |
| 10 | | O B | | | | | | | | | | 10 | | |
| 11 | | 10 | | | | | | | | | | 11 | | |
| 12 | | 15 | | | | | | | | | | 12 | | |
| 13 | | 20 | | | | | | | | | | 13 | | |
| 14 | | O | | | | | | -7.5° | | | | 14 | | |
| 15 | | 10 | | | | | | | | | | 15 | | |
| 16 | | 15 | | | | | | | | | | 16 | | |
| 17 | | 20 | | | | | | | | | | 17 | | |
| 18 | | O | | | | | | -15° | | | | 18 | | |

TEST RUN NUMBERS

7 13 19 25 31 37 43 49 55 61 67 73 76

C4...RPF...ICL...CN...ICAF...IOYN...ICBL...CY...XCP/L...ICAB...WASH...RLEPMA

IDVAR (1) IDVAR (2) IDV

α OR β SCHEDULES

COEFFICIENTS

$\alpha_1 = -2, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$

$\beta_1 = -10, -5, 0, 5, 10$

TABLE II. (CONTINUED)

TEST: OK 21A (NRAL 705)

DATE:

DATA SET/RUN NUMBER COLLATION SUMMARY

| DATA SET IDENTIFIER | CONFIGURATION | SCHD. | | PARAMETERS/VALUES | | | | | | | | | | NO. OF OK RUNS | MACH NUMBERS | | TEST RUN NUMBERS |
|---------------------|--|----------|---------|-------------------|------------|------------|------------|-------------|-------------|------------|--|--|-------|----------------|--------------|--|------------------|
| | | α | β | δE | δA | δV | δR | δEF | δSB | δH | | | 0.165 | | 0.260 | | |
| RDP09 | B, C, M, E, W, E ₂₃ , V, E ₂₃ , X ₂ | 10 | B | 0 | 0 | 0 | -1.5 | -1.8 | 0 | T | | | 1 | | 19 | | |
| 20 | | 15 | | | | | | | | | | | | | 20 | | |
| 21 | | 20 | | | | | | | | | | | | | 21 | | |
| 22 | | A | O | | | | 0 | 2.5 | | | | | | | 22 | | |
| 23 | | O | B | | | | | | | | | | | | 23 | | |
| 24 | | 10 | | | | | | | | | | | | | 24 | | |
| 25 | | 15 | | | | | | | | | | | | | 25 | | |
| 26 | | 20 | | | | | | | | | | | | | 26 | | |
| 27 | | C | | | | | -7.5 | | | | | | | | 27 | | |
| 28 | | 10 | | | | | | | | | | | | | 28 | | |
| 29 | | 15 | | | | | | | | | | | | | 29 | | |
| 30 | | 20 | | | | | | | | | | | | | 30 | | |
| 31 | | | | | | | -1.5 | | | | | | | | 31 | | |
| 32 | | 10 | | | | | | | | | | | | | 32 | | |
| 33 | | 15 | | | | | | | | | | | | | 33 | | |
| 34 | | 20 | | | | | | | | | | | | | 34 | | |
| 35 | | A | O | | | | 0 | 8.5 | | | | | | | 35 | | |
| 36 | | O | B | | | | | | | | | | | | 36 | | |

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75 76

CH...ICDE...ICLM...ICN...CAF...CYN...CBL...RY...KCP/L...CAB...MACH...ALPMA

α OR β

SCHEDULES

COEFFICIENTS

21 = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

22 = -10, -5, 0, 5, 10

10 MAR 11

11 MAR 12

TABLE II. (CONTINUED)

| TEST: 0A21A (NAAL705) | | | | | | | | | | DATA SET/RUN NUMBER COLLATION SUMMARY | | | | | | | | | | DATE: | | | | | | | | | |
|-----------------------|--|--|--|------------------|--|-------------------|-------|-------|-------|---------------------------------------|----------|-------|---|--|-----------|-------------|----|--------------|--|------------------|--|--|--|--|--|--|--|--|--|
| DATA SET IDENTIFIER | | CONFIGURATION | | SCMD. | | PARAMETERS/VALUES | | | | | | | | | | NO. OF RUNS | | MACH NUMBERS | | TEST RUN NUMBERS | | | | | | | | | |
| | | | | α β | | S_E | S_A | S_V | S_R | S_{BF} | S_{SB} | S_H | | | | | | | | | | | | | | | | | |
| RDPO37 | | B ₁₇ C ₁ M ₄ E ₃ W ₀ F ₂₃ V ₄ E ₂ X ₁ | | 10 B | | 0 | 0 | 0 | 0 | -18 | 85 | - | 1 | | 0.650.260 | | | | | | | | | | | | | | |
| 38 | | | | 15 | | | | | | | | | | | | | 37 | | | | | | | | | | | | |
| 39 | | | | 20 | | | | | | | | | | | | | 38 | | | | | | | | | | | | |
| 40 | | | | 0 | | | | | -7.5 | | | | | | | | 39 | | | | | | | | | | | | |
| 41 | | | | 10 | | | | | | | | | | | | | 40 | | | | | | | | | | | | |
| 42 | | | | 15 | | | | | | | | | | | | | 41 | | | | | | | | | | | | |
| 43 | | | | 20 | | | | | | | | | | | | | 42 | | | | | | | | | | | | |
| 44 | | | | 0 | | | | | -15 | | | | | | | | 43 | | | | | | | | | | | | |
| 45 | | | | 10 | | | | | | | | | | | | | 44 | | | | | | | | | | | | |
| 46 | | | | 15 | | | | | | | | | | | | | 45 | | | | | | | | | | | | |
| 47 | | | | 20 | | | | | | | | | | | | | 46 | | | | | | | | | | | | |
| 48 | | | | A 0 | | | | | 0 | | 55 | | | | | | 47 | | | | | | | | | | | | |
| 49 | | | | 0 B | | | | | | | | | | | | | 48 | | | | | | | | | | | | |
| 50 | | | | 10 | | | | | | | | | | | | | 49 | | | | | | | | | | | | |
| 51 | | | | 15 | | | | | | | | | | | | | 50 | | | | | | | | | | | | |
| 52 | | | | 20 | | | | | | | | | | | | | 51 | | | | | | | | | | | | |
| 53 | | | | 0 | | | | | -7.5 | | | | | | | | 52 | | | | | | | | | | | | |
| 54 | | | | 10 | | | | | | | | 0 | | | | | 53 | | | | | | | | | | | | |
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DATE:

COEFFICIENTS

TABLE II. (CONTINUED)

| TEST: ORZIN (NAPL 705) | | | | | | | | | | DATA SET/RUN NUMBER COLLATION SUMMARY | | | | | | | | | | DATE: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| DATA SET IDENTIFIER | CONFIGURATION | SCHD. | | PARAMETERS/VALUES | | | | | | | | | | NO. OF RUNS | MACH NUMBERS | | TEST RUN NUMBERS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | α | β | S_F | S_A | S_V | S_K | S_{BF} | S_{SE} | S_H | | | | | 0.165 | 0.260 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TABLE II. (CONTINUED)

| TEST: 0421A (NAHL 705) | | | | | | | | | | DATE: | | | | | | | | | |
|---|--|----------------|---------|-------------------|----|----|----|----|----|--|----|-------------|--------------|-------|------------------|--|--|--|--|
| DATA SET/RUN NUMBER COLLATION SUMMARY | | | | | | | | | | | | | | | | | | | |
| DATA SET IDENTIFIER | CONFIGURATION | SCHD. | | PARAMETERS/VALUES | | | | | | | | NO. OF RUNS | MACH NUMBERS | | TEST RUN NUMBERS | | | | |
| | | α | β | SE | SA | SA | SA | SE | SE | SE | SE | | | | | | | | |
| RDP091 | B ₇ C ₇ M ₄ F ₅ W ₁₀₇ E ₂₃ | X ₉ | 20 | B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0.165 | 0.260 | 91 | | | | |
| 092 | B ₇ C ₇ F ₅ | X ₉ | A | 0 | | | | | | | | | | | 92 | | | | |
| 093 | | | 0 | B | | | | | | | | | | | 93 | | | | |
| 094 | | | 10 | | | | | | | | | | | | 94 | | | | |
| 095 | | | 15 | | | | | | | | | | | | 95 | | | | |
| 096 | | | 20 | | | | | | | | | | | | 96 | | | | |
| 097 | B ₇ C ₇ | X ₉ | A | 0 | | | | | | | | | | | 97 | | | | |
| 098 | | | 0 | B | | | | | | | | | | | 98 | | | | |
| 099 | | | 10 | | | | | | | | | | | | 99 | | | | |
| 100 | | | 15 | | | | | | | | | | | | 100 | | | | |
| 101 | | | 20 | | | | | | | | | | | | 101 | | | | |
| 102 | B ₇ | X ₉ | A | 0 | | | | | | | | | | | 102 | | | | |
| 103 | | | 0 | B | | | | | | | | | | | 103 | | | | |
| 104 | | | 10 | | | | | | | | | | | | 104 | | | | |
| 105 | | | 15 | | | | | | | | | | | | 105 | | | | |
| 106 | | | 20 | | | | | | | | | | | | 106 | | | | |
| 107 | B ₇ C ₇ H ₂ M ₄ F ₅ W ₁₀₇ E ₂₃ V ₄ E ₂ X ₉ | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 107 | | | | |
| 108 | | | | | | | | | | | | | | | 108 | | | | |
| 1 | | 7 | 13 | 19 | 25 | 31 | 37 | 43 | 49 | 55 | 61 | 67 | 75 | 76 | | | | | |
| C4...EPF...CEM...CM...CAF...GYM...QB...CY...KEP...L...CAB...MACH...NAHL...HA... | | | | | | | | | | IDVAR (1) 101, 4, 8, 12, 16, 18, 20, 22, 24 | | | | | | | | | |
| α OR β | | | | | | | | | | COEFFICIENTS | | | | | | | | | |
| SCHEDULES | | | | | | | | | | α1 = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24 | | | | | | | | | |
| | | | | | | | | | | α2 = -10, -5, 0, 5, 10 | | | | | | | | | |

TABLE II. (CONTINUED)

[illegible]

| TEST: OA21A (NAHAL 705) | | | | | | | | | | | | | | | | DATE: _____ | | | | | | | | | | | | | | | |
|---|---|---------------|---|----------|---------|----------|----------|------------|---------|--------|----------|-------------------|----------|-----------|-------|-------------|-------|----------|--------|-------------|--------|--------------|--------|----------|----------|----------|------------|--------|--------|--|--|
| DATA SET / RUN NUMBER COLLATION SUMMARY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DATA SET IDENTIFIER | | CONFIGURATION | | SCHD. | | | | | | | | PARAMETERS/VALUES | | | | | | | | NO. OF RUNS | | MACH NUMBERS | | | | | | | | | |
| | | | | α | β | γ | δ | ϵ | ζ | η | θ | ι | κ | λ | μ | ν | ξ | σ | τ | υ | ϕ | χ | ψ | ω | Ω | Θ | Υ | Φ | Ψ | | |
| RDR12.7 | B ₇ C ₇ M ₂ M ₅ M ₁₀ E ₂₅ V ₂ X ₉ | A | D | 5 | 0 | 0 | 0 | -18 | 55 | 0 | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | H ₃ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | H ₄ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | H ₅ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | H ₅ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | H ₁₂ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | H ₁₃ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | H ₅ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| COEFFICIENTS | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| X = -1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 | | | | | | | | | | | | | | | |
| Y = -10, -15, -20, -25, -30 | | | | | | | | | | | | | | | |
| Z = -1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 | | | | | | | | | | | | | | | |

α OR β SCHEDULES

TABLE II. (CONTINUED)

| TEST: 0421A (NAAAL705) | | | | | | | | | | DATA SET/RUN NUMBER COLLATION SUMMARY | | | | | | | | | | DATE: | |
|------------------------|--------------------|---|---------|-------------------|-----|-----|------|----|-----|---------------------------------------|------|-------|---|-------------|--------------|-------|------------------|--|--|-------|--|
| DATA SET IDENTIFIER | CONFIGURATION | SCHD. | | PARAMETERS/VALUES | | | | | | | | | | NO. OF RUNS | MACH NUMBERS | | TEST RUN NUMBERS | | | | |
| | | α | β | E | S | R | S | R | S | R | S | R | S | | 0.165 | 0.260 | | | | | |
| RDP195 | B1G4G4M4F5410F34RX | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 145 | | | | | | |
| 46 | H16 | | | | | | | | | | | | | | 146 | | | | | | |
| 47 | H18 | | | | | | | | | | | | | | 147 | | | | | | |
| 48 | H17 | | | | | | | | | | | | | | 148 | | | | | | |
| 49 | | | | | | | | | | | | | | | 149 | | | | | | |
| 50 | H17 | | | 10 | | | | | | | | | | | 150 | | | | | | |
| 51 | H18 | | | | | | | | | | | | | | 151 | | | | | | |
| 52 | H9 | | | | | | | | | | | | | | 152 | | | | | | |
| 53 | H8 | | | | | | | | | | | | | | 153 | | | | | | |
| 54 | H13 | | | | | | | | | | | | | | 154 | | | | | | |
| 55 | H12 | | | | | | | | | | | | | | 155 | | | | | | |
| 56 | H16 | | | | | | | | | | | | | | 156 | | | | | | |
| 57 | H10 | | | | | | | | | | | | | | 157 | | | | | | |
| 58 | H11 | | | | | | | | | | | | | | 158 | | | | | | |
| 59 | H11 | | | 0 | | | | | | | | | | | 159 | | | | | | |
| 60 | H10 | | | | | | | | | | | | | | 160 | | | | | | |
| 61 | H16 | | | | | | | | | | | | | | 161 | | | | | | |
| 62 | H7 | | | | | | | | | | | | | | 162 | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | | | | | | |
| 61 | | | | | | | | | | | | | | | | | | | | | |
| 67 | | | | | | | | | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | | | | | | | | | |
| 76 | | | | | | | | | | | | | | | | | | | | | |
| CLM | | CDE | CLM | CN | CAF | CYN | IOBL | CY | XCP | CAB | MACH | ALPHA | | | | | | | | | |
| | | COEFFICIENTS | | | | | | | | | | | | | | | | | | | |
| | | CY = -4, 10 | | | | | | | | | | | | | | | | | | | |
| | | CB = -10, -5, 0, 5, 10 | | | | | | | | | | | | | | | | | | | |
| | | SCHEDULES | | | | | | | | | | | | | | | | | | | |
| | | SCHEDULES | | | | | | | | | | | | | | | | | | | |

TEST: 04214 N44705 (504744N) 41240:1531

DATE:

34

TEST : QAZIB(NAL 705)

DATE :

DATA SET/RUN NUMBER COLLATION SUMMARY

| DATA SET IDENTIFIER | CONFIGURATION | SCMD. | | PARAMETERS/VALUES | | | | | | | | | | NO. OF RUNS | MACH NUMBERS |
|---------------------|--------------------|-------|---|-------------------|----|----|----|-----|-----|----|---|---|---|-------------|--------------|
| | | a | B | SE | SA | SV | SR | SEF | SEB | SH | | | | | |
| RDP175 | B19G7M4F5W6F23V1R6 | A | O | O | O | O | O | O | -1B | O | O | O | O | 0.165 | 0.260 |
| 76 | | ↓ | 5 | | | | | | | | | | | | 175 |
| 77 | | O | B | | | | | | | | | | | | 176 |
| 78 | | S | | | | | | | | | | | | | 177 |
| 79 | | 10 | | | | | | | | | | | | | 178 |
| 80 | | 15 | | | | | | | | | | | | | 179 |
| 81 | | 20 ↓ | | | | | | | | | | | | | 180 |
| 82 | | A | O | | | | | | | | | | | | 181 |
| 83 | | I | 5 | | | | | | | | | | | | 182 |
| 84 | | | O | | | | | | | | | | | | 183 |
| 85 | | ↓ | 5 | | | | | | | | | | | | 184 |
| 86 | | O | B | | | | | | | | | | | | 185 |
| 87 | | S | | | | | | | | | | | | | 186 |
| 88 | | 10 | | | | | | | | | | | | | 187 |
| 89 | | 15 | | | | | | | | | | | | | 188 |
| 90 | | 20 ↑ | | | | | | | | | | | | | 189 |
| 91 | | A | O | | | | | | | | | | | | 190 |
| 92 | | ↓ | | | | | | | | | | | | 191 | |
| | | | | | | | | | | | | | | 192 | |

TEST RUN NUMBERS

CLM CLM CM CAF CYN CY BL CY XPL/L CAB MACH ALPHA

COEFFICIENTS

$\alpha_A = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$

$\alpha_B = -10, -5, 0, 5, 10$

α OR β SCHEDULES

TABLE II. (CONTINUED)

| TEST: OAZIB (NAN 705) | | | | | | | | | | DATE: | | | | | | | | | |
|---|--|----------|---------|-------------------|------------|------------|------------|-------------|-------------|------------|----|----|----|-------------|--------------|--|--|--|--|
| DATA SET/RUN NUMBER COLLATION SUMMARY | | | | | | | | | | | | | | | | | | | |
| DATA SET IDENTIFIER | CONFIGURATION | SCHD. | | PARAMETERS/VALUES | | | | | | | | | | NO. OF RUNS | MACH NUMBERS | | | | |
| | | α | β | δF | δA | δV | δR | δBF | δSB | δH | | | | | | | | | |
| RDP193 | B ₁₉ G ₁₄ F ₅ W ₀₇ E ₂₃ V ₁₈ | A | 0 | 0 | 0 | 0 | 0 | -18 | 55 | — | | | | 0.165 | 0.260 | | | | |
| 194 | | 5 | | | | | | | | | | | | 193 | | | | | |
| 195 | | 0 | | | | | | | | | | | | 194 | | | | | |
| 196 | | 5 | | | | | | | 85 | | | | | 195 | | | | | |
| 197 | | 0 | | -5 | | | | | 25 | | | | | 196 | | | | | |
| 198 | | | | 5 | | | | | | | | | | 197 | | | | | |
| 199 | | | | 10 | | | | | | | | | | 198 | | | | | |
| 200 | | | | 0 | | | | | | | | | | 199 | | | | | |
| 201 | B ₁₉ G ₁₄ H ₃ M ₄ F ₅ W ₀₇ E ₂₃ V ₁₈ | | | | | | | -18 | | 0 | | | | 201 | | | | | |
| 202 | | 0 | B | | | | | | | | | | | 202 | | | | | |
| 203 | | 5 | | | | | | | | | | | | 203 | | | | | |
| 204 | | 10 | | | | | | | | | | | | 204 | | | | | |
| 205 | | 15 | | | | | | | | | | | | 205 | | | | | |
| 206 | | 20 | | | | | | | | | | | | 206 | | | | | |
| 207 | | A | 0 | | | | | | | | | | | 207 | | | | | |
| 208 | | 0 | B | | | | | | | | | | | 208 | | | | | |
| 209 | | 5 | | | | | | | | | | | | 209 | | | | | |
| 210 | | 10 | | | | | | | | | | | | 210 | | | | | |
| TEST RUN NUMBERS | | | | | | | | | | | | | | | | | | | |
| 1 | 7 | 13 | 19 | 25 | 31 | 37 | 43 | 49 | 55 | 61 | 67 | 73 | 79 | | | | | | |
| CDF | CLM | FN | CAF | SYN | CB | SY | XCP/L | CAB | MACH | ALPHA | | | | | | | | | |
| α OR β | | | | | | | | | | | | | | | | | | | |
| SCHEDULES | | | | | | | | | | | | | | | | | | | |
| COEFFICIENTS | | | | | | | | | | | | | | | | | | | |
| $\alpha_F = -4, 3, 2, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$ | | | | | | | | | | | | | | | | | | | |
| $\beta_F = -10, -5, 0, 5, 10$ | | | | | | | | | | | | | | | | | | | |

TABLE II. (CONTINUED)

| TEST : OA 21B (NRAAL 705) | | | | | | | | | | DATA SET/RUN NUMBER COLLATION SUMMARY | | | | | | | | | | DATE : | |
|---------------------------|--|--|---------|-------------------|------------|------------|------------|------------|------------|---------------------------------------|-------|-------------|--------------|--|--|--|--|--|--|--------|--|
| DATA SET IDENTIFIER | CONFIGURATION | SCMD. | | PARAMETERS/VALUES | | | | | | | | NO. OF RUNS | MACH NUMBERS | | | | | | | | |
| | | α | β | δF | δA | δV | δR | δF | δB | δH | 0.165 | | 0.240 | | | | | | | | |
| RDP 211 | B ₁ A ₁ C ₁ H ₁ M ₁ F ₁ W ₁ E ₁ 3 ₁ V ₁ R ₁ 6 | 15 | B | 0 | 0 | 0 | 0 | -18 | 25 | 0 | | | 211 | | | | | | | | |
| 12 | | 20 | V | | | | | | | | | | 212 | | | | | | | | |
| 13 | H ₂₃ | A | 0 | | | | | | | | | | 213 | | | | | | | | |
| 14 | | 0 | L | | | | | | | | | | 214 | | | | | | | | |
| 15 | | 5 | | | | | | | | | | | 215 | | | | | | | | |
| 16 | | 10 | | | | | | | | | | | 216 | | | | | | | | |
| 17 | | 15 | | | | | | | | | | | 217 | | | | | | | | |
| 18 | | 20 | | | | | V | | | | | | 218 | | | | | | | | |
| 19 | | 0 | | | | | -7.5 | | | | | | 219 | | | | | | | | |
| 20 | | 5 | | | | | | | | | | | 220 | | | | | | | | |
| 21 | | 10 | | | | | | | | | | | 221 | | | | | | | | |
| 22 | | 15 | | | | | | | | | | | 222 | | | | | | | | |
| 23 | | 20 | | | | | V | | | | | | 223 | | | | | | | | |
| 24 | | 0 | | | | | -15 | | | | | | 224 | | | | | | | | |
| 25 | | 5 | | | | | | | | | | | 225 | | | | | | | | |
| 26 | | 10 | | | | | | | | | | | 226 | | | | | | | | |
| 27 | | 15 | | | | | | | | | | | 227 | | | | | | | | |
| 28 | | 20 | V | | | | V | | | | | | 228 | | | | | | | | |
| | | 7 | 13 | 19 | 25 | 31 | 37 | 43 | 49 | 55 | 61 | 67 | | | | | | | | | |
| SCHEDULES | | GA | ELM | GN | EAF | GN | CBH | SY | XEP | LS | CAB | MACH | | | | | | | | | |
| OR β | | OA = -1.3, 0.2, 4.6, 8.1, 12.4, 16.8, 20.1, 24 | | | | | | | | | | | | | | | | | | | |
| | | CB = -10, -5, 0, 5, 10 | | | | | | | | | | | | | | | | | | | |

| | |
|---------------------------------------|--------|
| TEST: OA21B (NAAL 705) | DATE : |
| DATA SET/RUN NUMBER COLLATION SUMMARY | |

37

TABLE II. (CONTINUED)

TEST : OA12 B (NARL 705)

DATE :

DATA SET/RUN NUMBER COLLATION SUMMARY

| DATA SET IDENTIFIER | CONFIGURATION | SCHD. | | PARAMETERS/VALUES | | | | | | | | | | NO. OF RUNS | MACH NUMBERS | |
|---------------------|---|----------|---------|-------------------|------------|------------|------------|------------|------------|------------|---|---|--|-------------|--------------|--|
| | | α | β | δE | δA | δV | δR | δS | δB | δH | | | | | | |
| RDP247 | B ₁ G ₁ M ₁ F ₂ W ₁ E ₂ V ₂ R ₂ | A | O | 0 | 0 | 0 | 0 | 0 | 15 | 25 | - | | | 0.165 | 0.260 | |
| 48 | M ₁ M ₁ F ₁ - 1X ₁ | | | | | | | | -18 | 55 | 0 | | | 247 | | |
| 49 | | | | | | | | | | | | | | 248 | | |
| 50 | H ₂ S M ₄ | | | | | | | | | | | | | 249 | | |
| 51 | | O | B | | | | | | 25 | 0 | | | | 250 | | |
| 52 | | 5 | | | | | | | | | | | | 251 | | |
| 53 | | 10 | | | | | | | | | | | | 252 | | |
| 54 | | 15 | | | | | | | | | | | | 253 | | |
| 55 | | 20 | | | | | | | | | | | | 254 | | |
| 56 | B ₂ G ₁ M ₄ | A | O | | | | | | | | | | | 255 | | |
| 57 | | O | B | | | | | | | | | | | 256 | | |
| 58 | | 5 | | | | | | | | | | | | 257 | | |
| 59 | | 10 | | | | | | | | | | | | 258 | | |
| 60 | | 15 | | | | | | | | | | | | 259 | | |
| 61 | | 20 | | | | | | | | | | | | 260 | | |
| 62 | H ₂ S | A | O | | | | | | | | | 0 | | 261 | | |
| 63 | | O | B | | | | | | | | | | | 262 | | |
| 64 | | 5 | | | | | | | | | | | | 263 | | |
| | | | | | | | | | | | | | | 264 | | |

1

7

13

19

25

31

37

43

49

55

61

67

73

SN

GDF

GLM

FM

SAF

SYN

SBL

SY

XCP/L

GAB

MACH

ALPHA

α OR β

SCHEDULES

$\alpha A = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$

$\beta B = -10, -5, 0, 5, 10$

COEFFICIENTS

[illegible]

TABLE III.
MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - B17

GENERAL DESCRIPTION : Fuselage, Configuration 3, Lightweight Orbiter

Model Scale = .0405

DRAWING NUMBER : VL70-000139

DIMENSIONS :

| | FULL SCALE | MODEL SCALE |
|------------------------|----------------|-----------------|
| Length - IN. | <u>1290.3</u> | <u>52.25715</u> |
| Max Width - IN. | <u>267.6</u> | <u>10.83760</u> |
| Max Depth - IN. | <u>244.5</u> | <u>9.90225</u> |
| Fineness Ratio | <u>4.82175</u> | <u>4.82175</u> |
| Area - FT ² | <u></u> | <u></u> |
| Max. Cross-Sectional | <u>386.67</u> | <u>0.63423</u> |
| Planform | <u></u> | <u></u> |
| Wetted | <u></u> | <u></u> |
| Base | <u></u> | <u></u> |

TABLE III. (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY - 19GENERAL DESCRIPTION: Fuselage, Configuration 3, per Rockwell Lines
VL70-000139B.

NOTE: Identical to B17 except forebody.

Model Scale = .0405

DRAWING NUMBER: VL70-000139B

DIMENSIONS:

FULL SCALE

MODEL SCALE

Length - IN.

1290.352.25715

Max Width - IN.

267.610.83780

Max Depth - IN.

244.59.90225

Fineness Ratio

4.821754.82175Area - FT²

Max. Cross-Sectional

386.670.63423

Planform

Wetted

Base

TABLE III. (CONTINUED)

MODEL COMPONENT: BODY - B21GENERAL DESCRIPTION: Fuselage, Configuration 3. Rockwell Lines per"Alternate cambered forebody for VL70-000139B"NOTE: B21 identical to B19, except forebody.Model Scale = .0405DRAWING NUMBER:Altn. cambered forebody
for VL70-000139BDIMENSIONS:FULL-SCALEMODEL SCALE

| | | |
|------------------------|-------------------|-------------------|
| Length - IN. | <u>1290.3</u> | <u>52.25715</u> |
| Max. Width - IN. | <u>267.6</u> | <u>10.83780</u> |
| Max. Depth - IN. | <u>244.5</u> | <u>9.90225</u> |
| Fineness Ratio | <u>4.82175</u> | <u>4.82175</u> |
| Area - FT ² | | |
| Max. Cross-Sectional | <u>386.67</u> | <u>0.63423</u> |
| Planform | <u> </u> | <u> </u> |
| Wetted | <u> </u> | <u> </u> |
| Base | <u> </u> | <u> </u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Canopy - C7

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

Model Scale = .0405

DRAWING NUMBER

VL70-000139

DIMENSION:

FULL SCALE

MODEL SCALE

Length ($X_0 = 433$ to $X_0 = 670$) - in. FS

237

9.59850

Max Width

Max Depth ($Z_0 =$ to $Z_0 = 501$) - in FS

Fineness Ratio

Area

Max Cross-Sectional

Planform

Wetted

Base

TABLE III. (CONTINUED)

MODEL COMPONENT: ELEVON - E23GENERAL DESCRIPTION: Configuration 3 per W107 Rockwell LinesVL70-000139B, data for (1) of (2) sidesModel Scale = .0405DRAWING NUMBER:VL70-000139BDIMENSIONS:FULL-SCALEMODEL SCALEArea - FT²205.520.33710

Span (equivalent) - IN.

353.3414.31027

Inb'd equivalent chord

114.784.64859

Outb'd equivalent chord

55.002.22750Ratio movable surface chord/
total surface chord

At Inb'd equiv. chord

.208.208

At Outb'd equiv. chord

.400.400

Sweep Back Angles, degrees

Leading Edge

0.000.00

Tailing Edge

-10.24-10.24

Hingeline

0.000.00Area Moment (Normal to hinge line)- FT³
Product of Area Moment1548.070.10284

TABLE III. (CONTINUED)

MODEL COMPONENT: F5 Body Flap

GENERAL DESCRIPTION: 3 Configuration per Rockwell Lines VL70-000139

Scale Model = .0405

DRAWING NUMBER

VL70-000139

DIMENSION:

FULL SCALE

MODEL SCALE

Length - in

84.70

3.43035

Max Width - in

267.6

10.83780

Max Depth

Fineness Ratio

Area - Ft²

Max Cross-Sectional

Planform

Wetted

Base

140.00

0.22963

38.0958

0.06249

TABLE III. (CONTINUED)

MODEL COMPONENT: Body Flap - F₆GENERAL DESCRIPTION: Body Flap for configuration 3,
per lines VL70-000139BNOTE: Flap adjustable from -32.5° to +13.75°MODEL SCALE = .0405

DRAWING NUMBER _____

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|------------------------|-------------------|--------------------|
| Length ~ in. | <u>107.0</u> | <u>4.33350</u> |
| Max Width ~ in. | <u>267.6</u> | <u>10.83780</u> |
| Max Depth | _____ | _____ |
| Fineness Ratio | _____ | _____ |
| Area ~ Ft ² | _____ | _____ |
| Max Cross-Sectional | _____ | _____ |
| Planform | <u>174.55</u> | <u>0.28630</u> |
| Wetted | _____ | _____ |
| Base | <u>38.0958</u> | <u>0.06249</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H2GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)

| | | |
|-----------------------------|-------------------|-------------------|
| Area ~ft ² | <u>13</u> | <u>0.021</u> |
| Span ~in. | <u>43.878</u> | <u>1.777</u> |
| Aspect Ratio | <u>2.06</u> | <u>2.06</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0, 10, 20</u> | <u>0, 10, 20</u> |
| Sweep Back Angle ~deg. | <u>60</u> | <u>60</u> |
| Chords ~in. | | |
| Root | <u>85.326</u> | <u>3.456</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>56.884</u> | <u>2.304</u> |
| Apex Location ~in. | | |
| X ₀ | <u>470</u> | <u>19.035</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u>534</u> | <u>21.627</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H3GENERAL DESCRIPTION: Trimmer used on modified configuration 3
vehicle (Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>26</u> | <u>0.092</u> |
| Span ~in. | <u>62.054</u> | <u>2.513</u> |
| Aspect Ratio | <u>2.06</u> | <u>2.06</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0, 10, 20</u> | <u>0, 10, 20</u> |
| Sweep Back Angle ~deg. | <u>60</u> | <u>60</u> |
| Chords ~in | | |
| Root | <u>120.670</u> | <u>4.887</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>80.447</u> | <u>3.258</u> |
| Apex Location ~in. | | |
| X ₀ | <u>432</u> | <u>17.496</u> |
| Y ₀ | <u></u> | <u></u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u>534</u> | <u>21.627</u> |
| Y ₀ | <u></u> | <u></u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H4GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)

| | | |
|-----------------------------|-------------------|-------------------|
| Area ~ft ² | <u>13</u> | <u>0.021</u> |
| Span ~in. | <u>46.058</u> | <u>1.865</u> |
| Aspect Ratio | <u>2.27</u> | <u>2.27</u> |
| Taper Ratio | <u>0.20</u> | <u>0.20</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0, 10, 20</u> | <u>0, 10, 20</u> |
| Sweep Back Angle ~deg. | <u>45</u> | <u>45</u> |
| Chords ~in. | | |
| Root | <u>67.734</u> | <u>2.743</u> |
| Tip | <u>13.555</u> | <u>0.549</u> |
| MAC | <u>46.661</u> | <u>1.890</u> |
| Apex Location ~in. | | |
| X ₀ | <u>487</u> | <u>19.723</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u>534</u> | <u>21.627</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H 5GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft²260.043

Span ~in.

65.1422.638

Aspect Ratio

2.272.27

Taper Ratio

0.200.20

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0, 10, 200, 10, 20

Sweep Back Angle ~deg.

4545

Chords ~in.

Root

95.7883.879

Tip

19.1600.776

MAC

65.9872.672

Apex Location ~in.

X₀46618.873Y₀ Z₀41016.605

Area Centroid Location ~in.

X₀53421.627Y₀ Z₀41016.605

TABLE III. (CONTINUED)

COMPONENT: Trimmer - H6GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-0001398), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| DIMENSION: | FULL SCALE | MODEL SCALE |
|------------|------------|-------------|
|------------|------------|-------------|

EXPOSED DATA (one side)

| | | |
|-----------------------|-----------|--------------|
| Area ~ft ² | <u>25</u> | <u>0.091</u> |
|-----------------------|-----------|--------------|

| | | |
|-----------|---------------|--------------|
| Span ~in. | <u>65.278</u> | <u>2.649</u> |
|-----------|---------------|--------------|

| | | |
|--------------|-------------|-------------|
| Aspect Ratio | <u>2.37</u> | <u>2.37</u> |
|--------------|-------------|-------------|

| | | |
|-------------|----------|----------|
| Taper Ratio | <u>0</u> | <u>0</u> |
|-------------|----------|----------|

| | | |
|----------------------|----------|----------|
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
|----------------------|----------|----------|

| | | |
|-----------------------|----------|----------|
| Incidence Angle ~deg. | <u>0</u> | <u>0</u> |
|-----------------------|----------|----------|

| | | |
|------------------------|-----------|-----------|
| Sweep Back Angle ~deg. | <u>50</u> | <u>50</u> |
|------------------------|-----------|-----------|

Chords ~in.

| | | |
|------|----------------|--------------|
| Root | <u>101.554</u> | <u>4.113</u> |
|------|----------------|--------------|

| | | |
|-----|----------|----------|
| Tip | <u>0</u> | <u>0</u> |
|-----|----------|----------|

| | | |
|-----|---------------|--------------|
| MAC | <u>67.703</u> | <u>2.742</u> |
|-----|---------------|--------------|

Apex Location ~in.

| | | |
|----------------|------------|---------------|
| X ₀ | <u>463</u> | <u>18.752</u> |
|----------------|------------|---------------|

| | | |
|----------------|-------------------|-------------------|
| Y ₀ | <u> </u> | <u> </u> |
|----------------|-------------------|-------------------|

| | | |
|----------------|------------|---------------|
| Z ₀ | <u>410</u> | <u>16.605</u> |
|----------------|------------|---------------|

Area Centroid Location ~in.

| | | |
|----------------|-------------------|-------------------|
| X ₀ | <u> </u> | <u> </u> |
|----------------|-------------------|-------------------|

| | | |
|----------------|-------------------|-------------------|
| Y ₀ | <u> </u> | <u> </u> |
|----------------|-------------------|-------------------|

| | | |
|----------------|------------|---------------|
| Z ₀ | <u>410</u> | <u>16.605</u> |
|----------------|------------|---------------|

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H7GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)

| | | |
|-----------------------------|----------------|---------------|
| Area ~ft ² | <u>50</u> | <u>0.082</u> |
| Span ~in. | <u>92.317</u> | <u>3.739</u> |
| Aspect Ratio | <u>2.37</u> | <u>2.37</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0</u> | <u>0</u> |
| Sweep Back Angle ~deg. | <u>50</u> | <u>50</u> |
| Chords ~in. | | |
| Root | <u>143.619</u> | <u>5.816</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>95.746</u> | <u>3.878</u> |
| Apex Location ~in. | | |
| X ₀ | <u>430</u> | <u>17.415</u> |
| Y ₀ | <u></u> | <u></u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u></u> | <u></u> |
| Y ₀ | <u></u> | <u></u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H8GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines U-70-000139B), mid-glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft²130.021

Span ~in.

43.2101.750

Aspect Ratio

2.252.25

Taper Ratio

00

Diheural Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

4949

Chords ~in.

Root

84.0253.403

Tip

00

MAC

56.0172.269

Apex Location ~in.

X₀62025.110Y₀ Z₀307.512.454

Area Centroid Location ~in.

X₀67027.135Y₀ Z₀307.512.454

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H9GENERAL DESCRIPTION: Trimmers used on modified configuration vehicle
(Rockwell Lines UL70-0001398), m.d. glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft²260.043

Span ~in.

61.7782.502

Aspect Ratio

2.042.04

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

4949

Chords ~in.

Root

120.1234.865

Tip

00

MAC

80.0823.243

Apex Location ~in.

X₀60024.300Y₀00Z₀308.512.494

Area Centroid Location ~in.

X₀67027.135Y₀00Z₀308.512.494

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H 10GENERAL DESCRIPTION: Trimmer used on modified configuration 3
vehicle (Rockwell Lines UL70-0001398), mid-glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft²6.50.011

Span ~in.

21.4560.869

Aspect Ratio

0.9840.984

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

6464

Chords ~in.

Root

87.2483.533

Tip

00

MAC

58.1652.356

Apex Location ~in.

X₀62025.110Y₀00Z₀307.512.454

Area Centroid Location ~in.

X₀67027.135Y₀00Z₀307.512.454

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H 11GENERAL DESCRIPTION: Trimmer used on modified configuration 3
vehicle (Rockwell Lines UL70-000139B), mid-glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft²130.021

Span ~in.

30.5411.237

Aspect Ratio

0.9960.996

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

6464

Chords ~in.

Root

122.5914.965

Tip

00

MAC

81.7273.309

Apex Location ~in.

X₀61024.705Y₀ Z₀308.012.474

Area Centroid Location ~in.

X₀67027.135Y₀ Z₀308.012.474

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H12GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-000139B), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft²500.082

Span ~in.

69.4642.813

Aspect Ratio

1.341.34

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

5959

Chords ~in.

Root

203.1118.226

Tip

00

MAC

135.4075.484

Apex Location ~in.

X₀50020.250Y₀ Z₀312.312.648

Area Centroid Location ~in.

X₀ Y₀ Z₀312.312.648

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H 13GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines VL70-000139B), glove-apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft²850.139

Span ~in.

113.5724.599

Aspect Ratio

2.112.11

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

4545

Chords ~in.

Root

203.1118.226

Tip

00

MAC

135.4075.484

Apex Location ~in.

X₀50020.250Y₀ Z₀312.312.648

Area Centroid Location ~in.

X₀ Y₀ Z₀312.312.648

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H14GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines 020-0001398), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>25</u> | <u>0.041</u> |
| Span ~in. | <u>65.278</u> | <u>2.644</u> |
| Aspect Ratio | <u>2.37</u> | <u>2.37</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>45</u> | <u>45</u> |
| Incidence Angle ~deg. | <u>0</u> | <u>0</u> |
| Sweep Back Angle ~deg. | <u>50</u> | <u>50</u> |
| Chords ~in. | | |
| Root | <u>101.554</u> | <u>4.113</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>67.703</u> | <u>2.742</u> |
| Apex Location ~in. | | |
| X ₀ | <u>463</u> | <u>18.752</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H15GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle(Rockwell Lines UL70 C001398), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>50</u> | <u>0.082</u> |
| Span ~in. | <u>92.317</u> | <u>3.739</u> |
| Aspect Ratio | <u>2.37</u> | <u>2.37</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>45</u> | <u>45</u> |
| Incidence Angle ~deg. | <u>0</u> | <u>0</u> |
| Sweep Back Angle ~deg. | <u>50</u> | <u>50</u> |
| Chords ~in. | | |
| Root | <u>143.619</u> | <u>5.816</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>95.746</u> | <u>3.878</u> |
| Apex Location ~in. | | |
| X ₀ | <u>430</u> | <u>17.415</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H16GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-000139B)MODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>84.5</u> | <u>0.139</u> |
| Span ~in. | <u>83.618</u> | <u>3.386</u> |
| Aspect Ratio | <u>1.15</u> | <u>1.15</u> |
| Taper Ratio | <u>1.15</u> | <u>1.15</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0.50</u> | <u>0.50</u> |
| Sweep Back Angle ~deg. | <u>62</u> | <u>62</u> |
| Chords ~in. | | |
| Root | <u>286</u> | <u>11.583</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>190.667</u> | <u>7.722</u> |
| Apex Location ~in. | | |
| X ₀ | <u>500</u> | <u>20.250</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.648</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.648</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H17GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines U-170-000139B), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>168.5</u> | <u>0.276</u> |
| Span ~in. | <u>159.929</u> | <u>6.477</u> |
| Aspect Ratio | <u>2.11</u> | <u>2.11</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0.50</u> | <u>0.50</u> |
| Sweep Back Angle ~deg. | <u>45</u> | <u>45</u> |
| Chords ~in. | | |
| Root | <u>286</u> | <u>11.583</u> |
| Tip | <u> </u> | <u> </u> |
| MAC | <u>190.667</u> | <u>7.722</u> |
| Apex Location ~in. | | |
| X ₀ | <u>500</u> | <u>20.250</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.648</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.648</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H18GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines UL70-000139B), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>54.0</u> | <u>0.088</u> |
| Span ~in. | <u>54.307</u> | <u>2.199</u> |
| Aspect Ratio | <u>0.75</u> | <u>0.75</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0.50</u> | <u>0.50</u> |
| Sweep Back Angle ~deg. | <u>68</u> | <u>68</u> |
| Chords ~in. | | |
| Root | <u>284.615</u> | <u>11.527</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>189.743</u> | <u>7.684</u> |
| Apex Location ~in. | | |
| X ₀ | <u>500</u> | <u>20.250</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.642</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.648</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H23GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines VL70-000139B), nose mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>21</u> | <u>0.034</u> |
| Span ~in. | <u>65.550</u> | <u>2.655</u> |
| Aspect Ratio | <u>2.84</u> | <u>2.84</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0</u> | <u>0</u> |
| Sweep Back Angle ~deg. | <u>31</u> | <u>31</u> |
| Chords ~in. | | |
| Root | <u>77.295</u> | <u>3.130</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>51.530</u> | <u>2.087</u> |
| Apex Location ~in. | | |
| X ₀ | <u>279</u> | <u>11.299</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>410</u> | <u>16.605</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H24GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle
(Rockwell Lines VL70-000139B), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>30</u> | <u>0.049</u> |
| Span ~in. | <u>40.478</u> | <u>1.639</u> |
| Aspect Ratio | <u>1.52</u> | <u>1.52</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0.50</u> | <u>0.50</u> |
| Sweep Back Angle ~deg. | <u>68</u> | <u>68</u> |
| Chords ~in. | | |
| Root | <u>212.140</u> | <u>8.592</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>141.427</u> | <u>5.728</u> |
| Apex Location ~in. | | |
| X ₀ | <u>500</u> | <u>20.250</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.648</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>312.3</u> | <u>12.648</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H25GENERAL DESCRIPTION: Trimmer used on modified configuration 2
vehicle (Rockwell Lines UL70-000139B), nose mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

| <u>DIMENSION:</u> | <u>FULL SCALE</u> | <u>MODEL SCALE</u> |
|--------------------------------|-------------------|--------------------|
| <u>EXPOSED DATA (one side)</u> | | |
| Area ~ft ² | <u>21</u> | <u>0.034</u> |
| Span ~in. | <u>65.55</u> | <u>2.654</u> |
| Aspect Ratio | <u>2.84</u> | <u>2.84</u> |
| Taper Ratio | <u>0</u> | <u>0</u> |
| Dihedral Angle ~deg. | <u>0</u> | <u>0</u> |
| Incidence Angle ~deg. | <u>0</u> | <u>0</u> |
| Sweep Back Angle ~deg. | <u>21</u> | <u>21</u> |
| Chords ~in. | | |
| Root | <u>77.295</u> | <u>3.130</u> |
| Tip | <u>0</u> | <u>0</u> |
| MAC | <u>51.530</u> | <u>2.087</u> |
| Apex Location ~in. | | |
| X ₀ | <u>279</u> | <u>11.299</u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>331.0</u> | <u>13.405</u> |
| Area Centroid Location ~in. | | |
| X ₀ | <u> </u> | <u> </u> |
| Y ₀ | <u> </u> | <u> </u> |
| Z ₀ | <u>331.0</u> | <u>13.405</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: OMS Pod - M₄

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

NOTE: M₄ identical to M₃, except intersection to fuselage.

Model Scale = .0405

DRAWING NUMBER

VL70-000139

DIMENSION:

FULL SCALE

MODEL SCALE

Length - IN

346.0

14.01300

Max Width - IN

108.0

4.37400

Max Depth - IN

113.0

4.57650

Fineness Ratio

Area - FT²

Max Cross-Sectional

Planform

Wetted

Base

TABLE III. (CONTINUED)

MODEL COMPONENT: RUDDER - R₄

GENERAL DESCRIPTION: _____

NOTE: Identical to R₅ except notch along T.E. of rudderModel Scale = .0405DRAWING NUMBER:VL70-000095DIMENSIONS:FULL-SCALEMODEL SCALEArea - FT²106.380.17449

Span (equivalent) - IN.

201.08.14056

Inb'd equivalent chord

91.5853.70919

Outb'd equivalent chord

50.8332.05874Ratio movable surface chord/
total surface chord

At Inb'd equiv. chord

0.4000.400

At Outb'd equiv. chord

0.4000.400

Sweep Back Angles, degrees

Leading Edge

34.8334.83

Tailing Edge

26.2526.25

Hingeline

34.8334.83Area Moment (Normal to hinge line)- FT³
Product of Area and Mean Chord526.130.03495

TABLE III. (CONTINUED)

MODEL COMPONENT: VERTICAL - V 7GENERAL DESCRIPTION: Centerline vertical tail, doublewedge airfoil with
rounded leading edge.NOTE: Same as V5, but with manipulator housing removed.Model Scale = .0405DRAWING NUMBER:VL70-000139DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

| | | |
|----------------------------|----------------|-----------------|
| Area (Theo) Ft^2 | <u>425.92</u> | <u>0.69861</u> |
| Planform | | |
| Span (Theo) In | <u>315.72</u> | <u>12.78666</u> |
| Aspect Ratio | <u>1.675</u> | <u>1.675</u> |
| Rate of Taper | <u>0.507</u> | <u>0.507</u> |
| Taper Ratio | <u>0.404</u> | <u>0.404</u> |
| Sweep Back Angles, degrees | | |
| Leading Edge | <u>45.000</u> | <u>45.000</u> |
| Trailing Edge | <u>26.249</u> | <u>26.249</u> |
| 0.25 Element Line | <u>41.130</u> | <u>41.130</u> |
| Chords: | | |
| Root (Theo) WP | <u>268.50</u> | <u>10.87425</u> |
| Tip (Theo) WP | <u>108.47</u> | <u>4.39303</u> |
| MAC | <u>199.81</u> | <u>8.09230</u> |
| Fus. Sta. of .25 MAC | <u>1463.50</u> | <u>59.27175</u> |
| W. P. of .25 MAC | <u>635.522</u> | <u>25.73864</u> |
| B. L. of .25 MAC | <u>0.00</u> | <u>0.00</u> |
| Airfoil Section | | |
| Leading Wedge Angle Deg | <u>10.000</u> | <u>10.000</u> |
| Trailing Wedge Angle Deg | <u>14.920</u> | <u>14.920</u> |
| Leading Edge Radius | <u>2.0</u> | <u>0.08100</u> |
| Void Area - Ft^2 | <u>13.17</u> | <u>0.02160</u> |
| Blanketed Area | <u>0.00</u> | <u>0.00</u> |

TABLE III. (CONTINUED)

MODEL COMPONENT: WING-W 107GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139BNOTE: Same as W103, except cuff, airfoil and incidence angle.

Model Scale = .0405

TEST NO.DWG. NO. VL70-000139BDIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATAArea (Theo.) Ft^2

Planform

Span (Theo) In.

Aspect Ratio

Rate of Taper

Taper Ratio

Dihedral Angle, degrees (@ TE of Elevon)

Incidence Angle, degrees

Aerodynamic Twist, degrees

Sweep Back Angles, degrees

Leading Edge

Trailing Edge

0.25 Element Line

Chords:

Root (Theo) B.P.O.O.

Tip, (Theo) B.P.

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

EXPOSED DATAArea (Theo) Ft^2

Span, (Theo) In. BP108

Aspect Ratio

Taper Ratio

Chords

Root BP108

Tip 1.00 $\frac{b}{2}$

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

Airfoil Section (Rockwell Mod NASA)

XXXX-64

Root $\frac{b}{2}$ =Tip $\frac{b}{2}$ = $\frac{b}{2}$

Data for (1) of (2) Sides

Leading Edge Cuff

Planform Area Ft^2

Leading Edge Intersects Fus M. L. @ Sta

Leading Edge Intersects Wing @ Sta

MODEL COMPONENT: WING-W 112

GENERAL DESCRIPTION: Configuration 3

NOTE: Same as W107 except upper surface is straight line.

Model Scale = .0405

TEST NO. _____

DWG. NO. _____

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area (Theo.) Ft^2

Planform

Span (Theo) In.

Aspect Ratio

Rate of Taper

Taper Ratio

Dihedral Angle, degrees (@ TE of Elevon)

Incidence Angle, degrees

Aerodynamic Twist, degrees

Sweep Back Angles, degrees

Leading Edge

Trailing Edge

0.25 Element Line

Chords:

Root (Theo) B.P.O.O.

Tip, (Theo) B.P.

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

EXPOSED DATA

Area (Theo) Ft^2

Span, (Theo) In. BP108

Aspect Ratio

Taper Ratio

Chords

Root BP108

Tip 1.00 $\frac{b}{2}$

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

Airfoil Section (Rockwell Mod NASA)
XXXX-64

Root $\frac{b}{2}$ =

Tip $\frac{b}{2}$ =

Data for (1) of (2) Sides

Leading Edge Cuff
Planform Area Ft^2

Leading Edge Intersects Fus M. L. @ Sta

Leading Edge Intersects Wing @ Sta

2690.00

936.68

2.265

1.177

0.200

3.500

0.500

+3.000

45.000

-10.24

35.209

689.24

137.85

474.81

1136.89

299.20

182.13

1752.29

720.68

2.058

0.2451

562.40

137.85

393.03

1185.31

300.20

251.76

0.10

0.12

118.333

500

1083.4

4.41227

37.93554

2.265

1.177

0.200

3.500

0.500

+3.000

45.000

-10.24

35.209

27.91422

5.58292

19.22980

46.04404

12.11760

7.37626

2.87419

29.18754

2.058

0.2451

22.77720

5.58292

15.91771

48.00506

12.15810

10.19628

0.10

0.12

0.19416

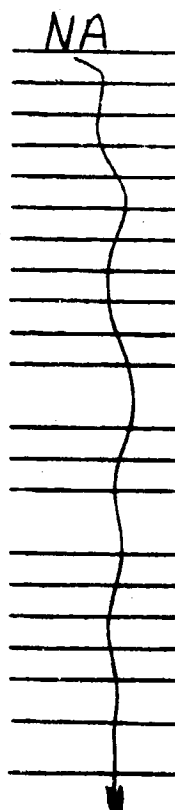
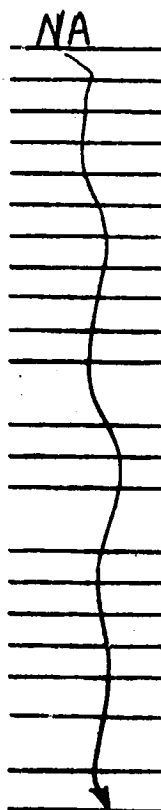
20.23000

43.87770

TABLE III. (CONTINUED)

MODEL COMPONENT: SPEED BRAKE - 22GENERAL DESCRIPTION: SPEED BRAKE MOUNTED ON WING UPPER SURFACE OF
MODIFIED VEHICLE 3 , VL70-0001398MODEL SCALE = .0405DRAWING NUMBERDIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA:

Area
 Planform
 Wetted
 Span (equivalent)
 Aspect Ratio
 Rate of Taper
 Taper Ratio
 Dihedral Angle, degrees
 Incidence Angle, degrees
 Aerodynamic Twist, degrees
 Toe-In Angle
 Cant Angle
 Sweep Back Angles, degrees
 Leading Edge
 Trailing Edge
 0.25 Element Line
 Chords:
 Root (Wing Sta. 0.0)
 Tip, (equivalent)
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC
 Airfoil Section
 Root
 Tip

EXPOSED DATA

Area
 Span, (equivalent)/side
 Aspect Ratio
 Taper Ratio
 Chords
 Root
 Tip
 Fus. Sta. of Wingline

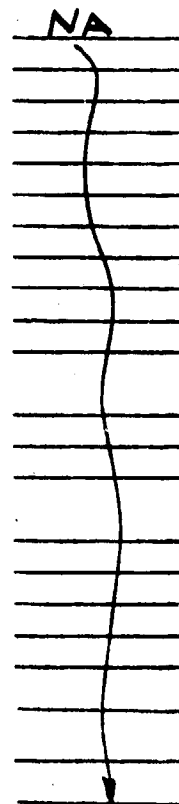
137.6
107
1.156
1.0
107
107
1195

0.2256
4.333
1.156
1.0
4.333
4.333
48.398

TABLE III. (CONTINUED)

MODEL COMPONENT: SPEED BRAKE - Z3GENERAL DESCRIPTION: FLAT PLATE SPEED BRAKE MOUNTED ON WINGLOWER SURFACE (AHEAD OF LANDING GEAR) OF MODIFIED CONFIGURA-
TION 3, VL70-000139BMODEL SCALE = .0405DRAWING NUMBER: _____DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area
 Planform
 Wetted
 Span (equivalent)
 Aspect Ratio
 Rate of Taper
 Taper Ratio
 Dihedral Angle, degrees
 Incidence Angle, degrees
 Aerodynamic Twist, degrees
 Toe-In Angle
 Cant Angle
 Sweep Back Angles, degrees
 Leading Edge
 Trailing Edge
 0.25 Element Line
 Chords:
 Root (Wing Sta. 0.0)
 Tip, (equivalent)
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC
 Airfoil Section
 Root
 Tip

EXPOSED DATA

Area
 Span, (equivalent) PER SIDE
 Aspect Ratio
 Taper Ratio
 Chords
 Root
 Tip
 Fus. Sta. of Wingline

62.9
84
1.558
1.0
62
62
1042

0.103
3.402
1.558
1.0
2.511
2.511
42.201

TABLE III. (CONTINUED)

MODEL COMPONENT: SPEED BRAKE - Z4

GENERAL DESCRIPTION: FLAT PLATE SPEED BRAKE MOUNTED ON OMS
POD OF MODIFIED CONFIGURATION 3 VEHICLE, UL70-000139B

MODEL SCALE = .0405

DRAWING NUMBER: _____

DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area
 Planform
 Wetted
 Span (equivalent)
 Aspect Ratio
 Rate of Taper
 Taper Ratio
 Dihedral Angle, degrees
 Incidence Angle, degrees
 Aerodynamic Twist, degrees
 Toe-In Angle
 Cant Angle
 Sweep Back Angles, degrees
 Leading Edge
 Trailing Edge
 0.25 Element Line
 Chords:
 Root (Wing Sta. 0.0)
 Tip, (equivalent)
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC
 Airfoil Section
 Root
 Tip

NA

NA

EXPOSED DATA

Area
 Span, (equivalent)/side
 Aspect Ratio
 Taper Ratio
 Chords
 Root
 Tip
 Fus. Sta. of Hingeline

91.7
 120
 2.18
 1.20
 100
 120
 1319

0.150
 2.18
 1.20
 4.050
 4.860
 53.419

TABLE III. (CONCLUDED)

MODEL COMPONENT: SPEED BRAKE - Z5

GENERAL DESCRIPTION: FLAT PLATE SPEED BRAKE MOUNTED ON FUSELAGE
SIDE OF TRAILING EDGE (BODY FLAP) OF CONFIGURATION 3
VEHICLE , UL70-000139 B
MODEL SCALE = .0405

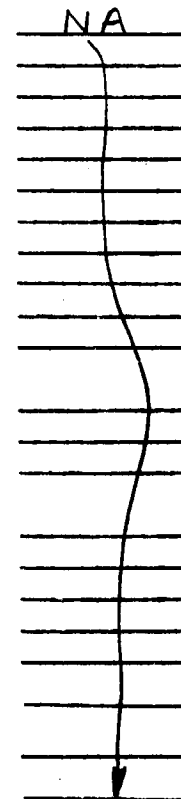
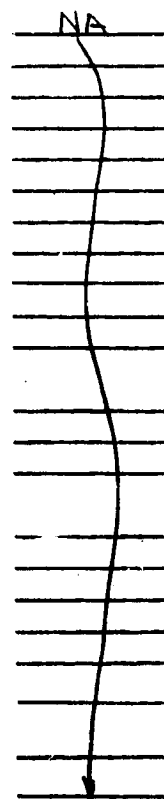
DRAWING NUMBER: _____

DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area
 Planform
 Wetted
 Span (equivalent)
 Aspect Ratio
 Rate of Taper
 Taper Ratio
 Dihedral Angle, degrees
 Incidence Angle, degrees
 Aerodynamic Twist, degrees
 Toe-In Angle
 Cant Angle
 Sweep Back Angles, degrees
 Leading Edge
 Trailing Edge
 0.25 Element Line
 Chords:
 Root (Wing Sta. 0.0)
 Tip, (equivalent)
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC
 Airfoil Section
 Root
 Tip

EXPOSED DATA

Area
 Span, (equivalent)/side
 Aspect Ratio
 Taper Ratio
 Chords
 Root
 Tip
 Fus. Sta. of Hingeline



79
 120
 2.532
 0.629
 140
 88
 1528

0.129
 4.860
 2.532
 0.629
 5.670
 3.564
 61.884








| CANARD SYMBOL NO. | MOUNT | PLATFORM SKETCH | AREA (FT ² /SIDE) | L.E. SWEEP (DEG) | INCIDENCE ANGLES (DEG) | DIHEDRAL ANGLES (DEG) |
|-------------------|-----------|---|------------------------------|-----------------------------------|-------------------------|-----------------------|
| H ₂ | BODY |  AR=2.06 | 13 | 60 | 0, + 10, + 20 | 0 |
| H ₃ | BODY |  AR=2.06 | 26 | 60 | | |
| H ₄ | BODY |  $\lambda = .2$ | 13 | 45 | | |
| H ₅ | BODY |  $\lambda = .2$ | 26 | 45 | | |
| H _{6,14} | BODY |  | 25 | ANGLE FROM MOUNTING SURFACE 40 | 0 | 0, +45 |
| H _{7,15} | BODY |  | 50 | ANGLE FROM MOUNTING SURFACE 40 | 0 | |
| H ₈ | MID-GLOVE |  | 13 | ANGLE FROM MOUNTING SURFACE 30 | 0 WITH RESPECT TO GLOVE | 0 |

TABLE IV. SUMMARY OF CANARD GEOMETRIES








| CANARD SYMBOL NO. | MOUNT | PLATFORM SKETCH | AREA (FT ² /SIDE) | L. E. SWEEP (DEG.) | INCIDENCE ANGLES (DEG) | PINEDRAL ANGLES (DEG) |
|-------------------------|------------|---|---------------------------------|---|------------------------------|-----------------------------|
| H ₉ | MID-GLOVE |  | 26 | ANGLE FROM MOUNTING SURFACE 30 | WITH RESPECT 0 TO GLOVE | 0 |
| H ₁₀ | MID-GLOVE |  | 6.5 | ANGLE FROM MOUNTING SURFACE 15 | | |
| H ₁₁ | MID-GLOVE |  | 13 | ANGLE FROM MOUNTING SURFACE 15 | | |
| H ₁₂ | GLOVE APEX |  | 50 | ANGLE FROM MOUNTING SURFACE 20 | | |
| H ₁₃ | GLOVE APEX |  | 85 | ANGLE FROM MOUNTING SURFACE 34 | | |
| H ₁₆ | GLOVE APEX |  | 84.5 | ANGLE FROM MOUNTING SURFACE 17 | | |
| H ₁₇ | GLOVE APEX |  | 168.5 | ANGLE FROM MOUNTING SURFACE 34 | | |

TABLE IV. (CONTINUED)

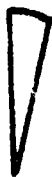



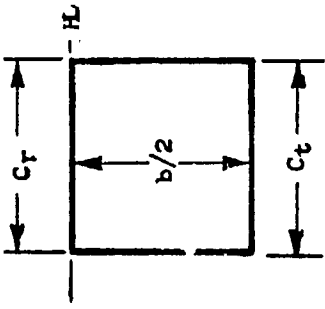
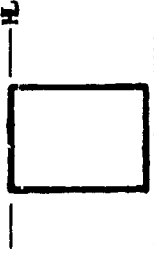
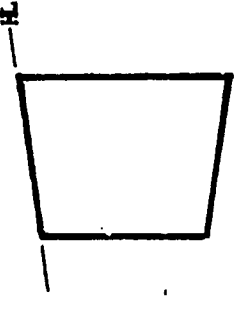
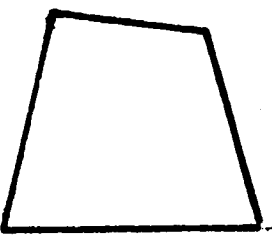
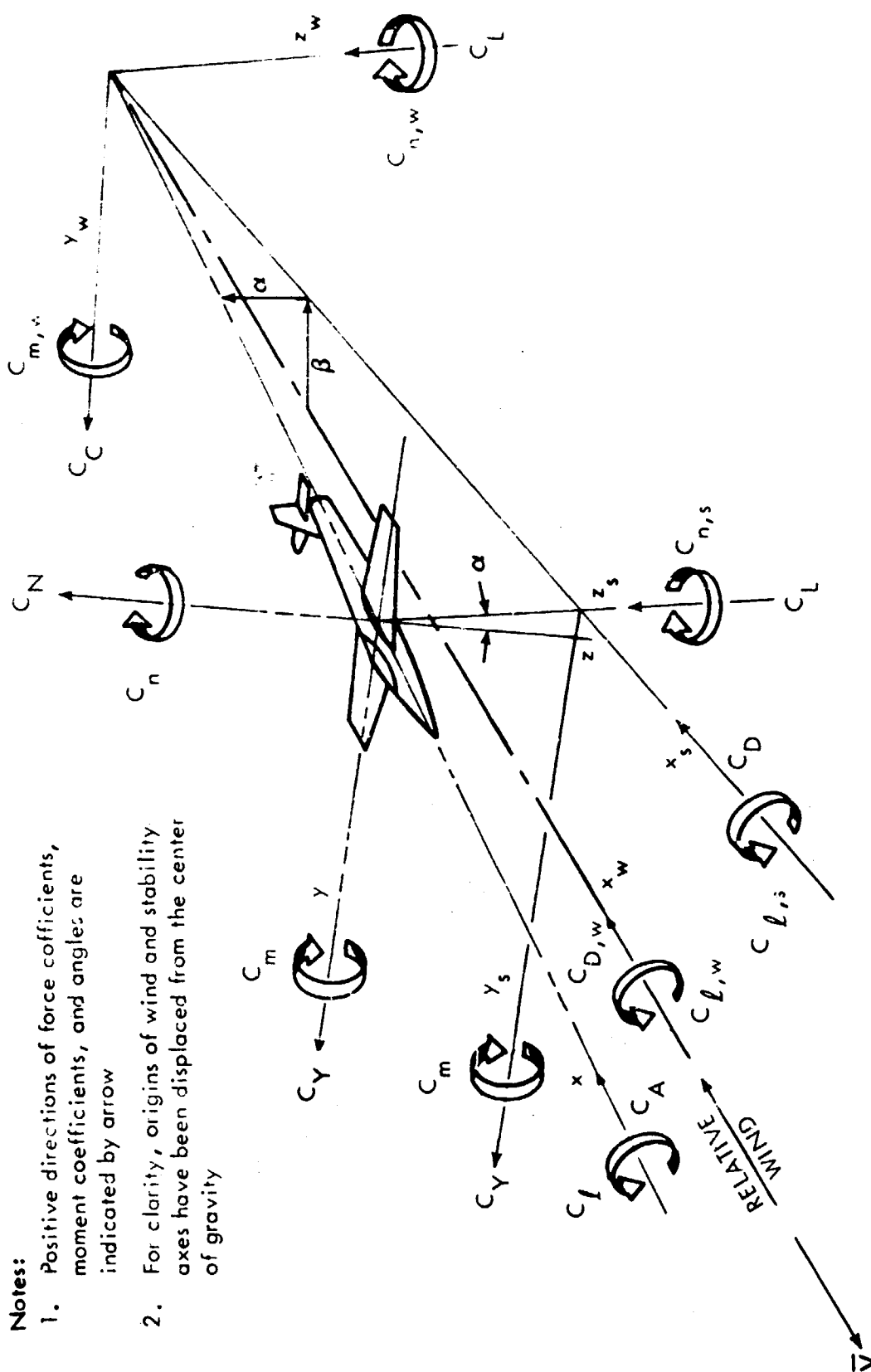
| CANARD SYMBOL NO. | MOUNT | PLATFORM SKETCH | AREA (FT ² /SIDE) | L.E. SWEEP ANGLES (DEG) | INCIDENCE ANGLES (DEG) | DISTANCE ANGLES (DEG) |
|-------------------------|---------------|---|---------------------------------|-------------------------------|------------------------------|-----------------------------|
| H ₁₈ | GLOVE APEX |  | 54.0 | 11 | 0.50 | 0 |
| H ₂₄ | GLOVE APEX |  | ~30 | 11 | 0.50 | 0 |
| H ₂₃ | NOSE |  | 21 | 21 | 0 | 0 |
| H ₂₅ | NOSE |  | 21 | 21 | 0 | 0 |

TABLE IV. (CONCLUDED)

TABLE V. SUMMARY OF SPEED BRAKE GEOMETRIES

| SYMBOL | PLATFORM SKETCH | MOUNTING SURFACE | WINGING LOCATION (F.S. STA IN.) | DEFLECTION ANGLE (DGC. TO LOCAL SURFACE) | EXPOSED AREA (FT ²) | EXPOSED SEMISPAN $b/2$ (IN.) | EXPOSED CHORD | |
|--------|---|--|---------------------------------|--|---------------------------------|------------------------------|-----------------|------------------|
| | | | | | | | TIP C_t (IN.) | ROOT C_r (IN.) |
| Z_2 |  | WING UPPER SURFACE | 1195 | 5 | 137.6 | 107 | 107 | 107 |
| Z_3 |  | WING LOWER SURFACE (AHEAD OF LANDING GEAR) | 1042 | 60 | 52.9 | 84 | 62 | 62 |
| Z_4 |  | CMS FOD | 1319 | 60 | 91.7 | 120 | 120 | 100 |
| Z_5 |  | FUSELAGE SIDE AT TRAILING EDGE (BODY FLAP) | (APPROX) 1528 | 60 | 79 | 118 (TOP) 112 (BOTTOM) | 88 | 140 |

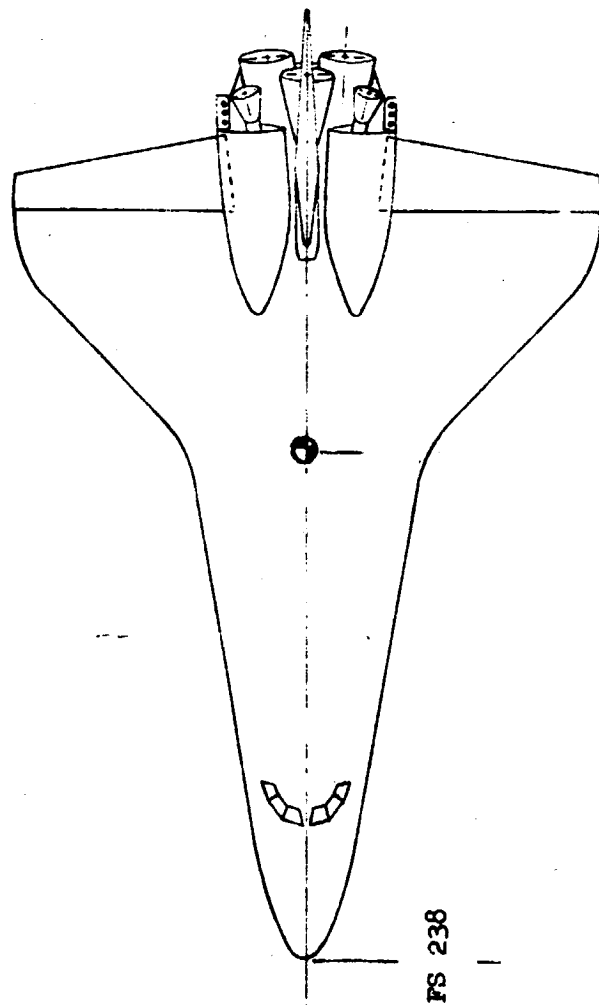
MODEL FIGURES



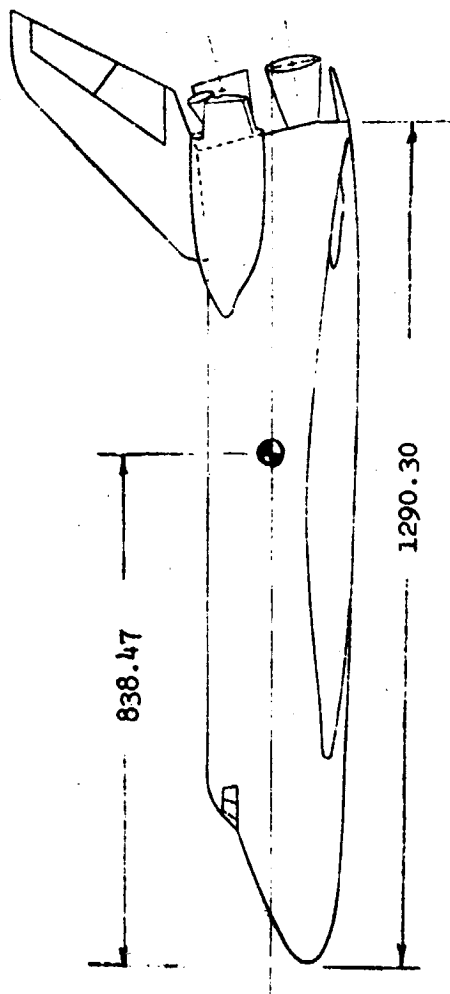
Notes:

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrow
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

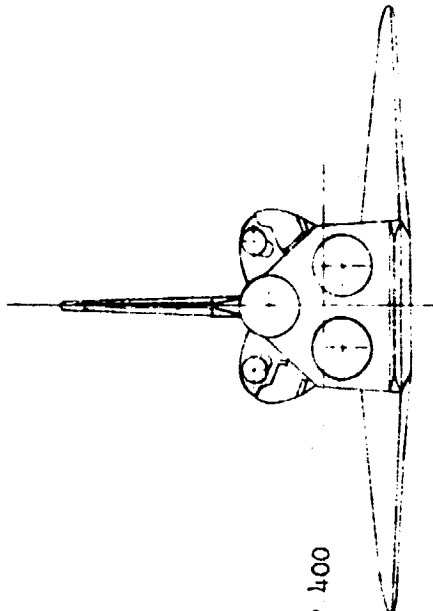
Figure 1. - Axis Systems.



FS 238



FRL WP 400

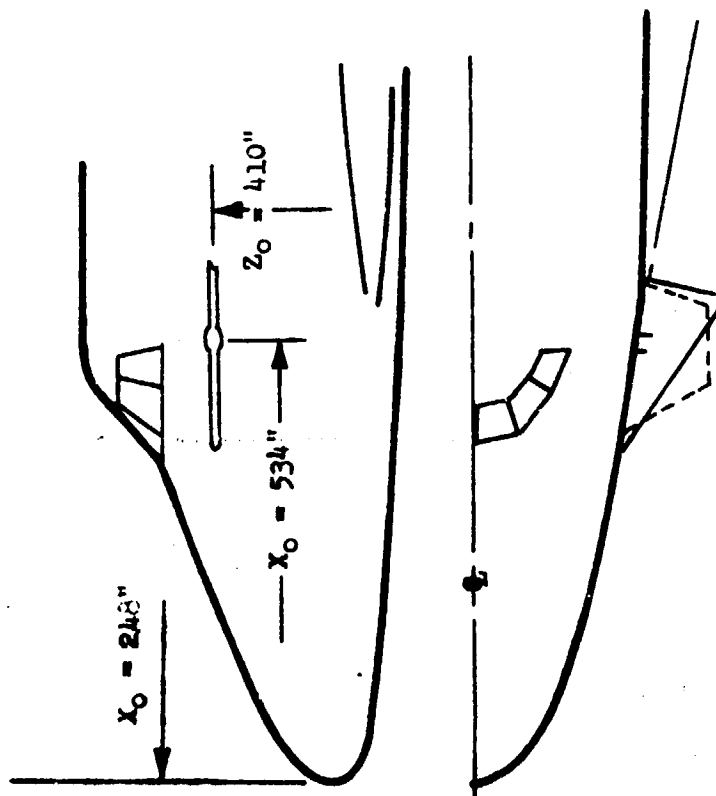


NOTES:

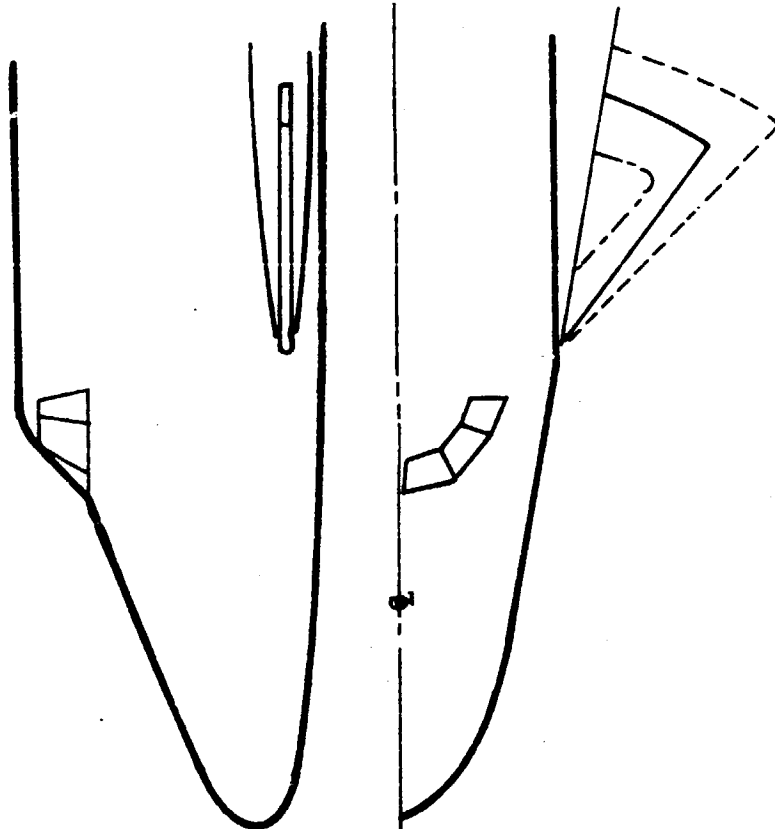
- ALL DIMENSIONS IN INCHES
- REFERENCE DIMENSIONS
- S = 2690 ft.²
- c = 474.81 in.
- b = 936.68
- XMRP = 65% λ_{body}
- aft of nose
- CONFIGURATION -139B

a. General Arrangement
Figure 2. - Model Sketches.

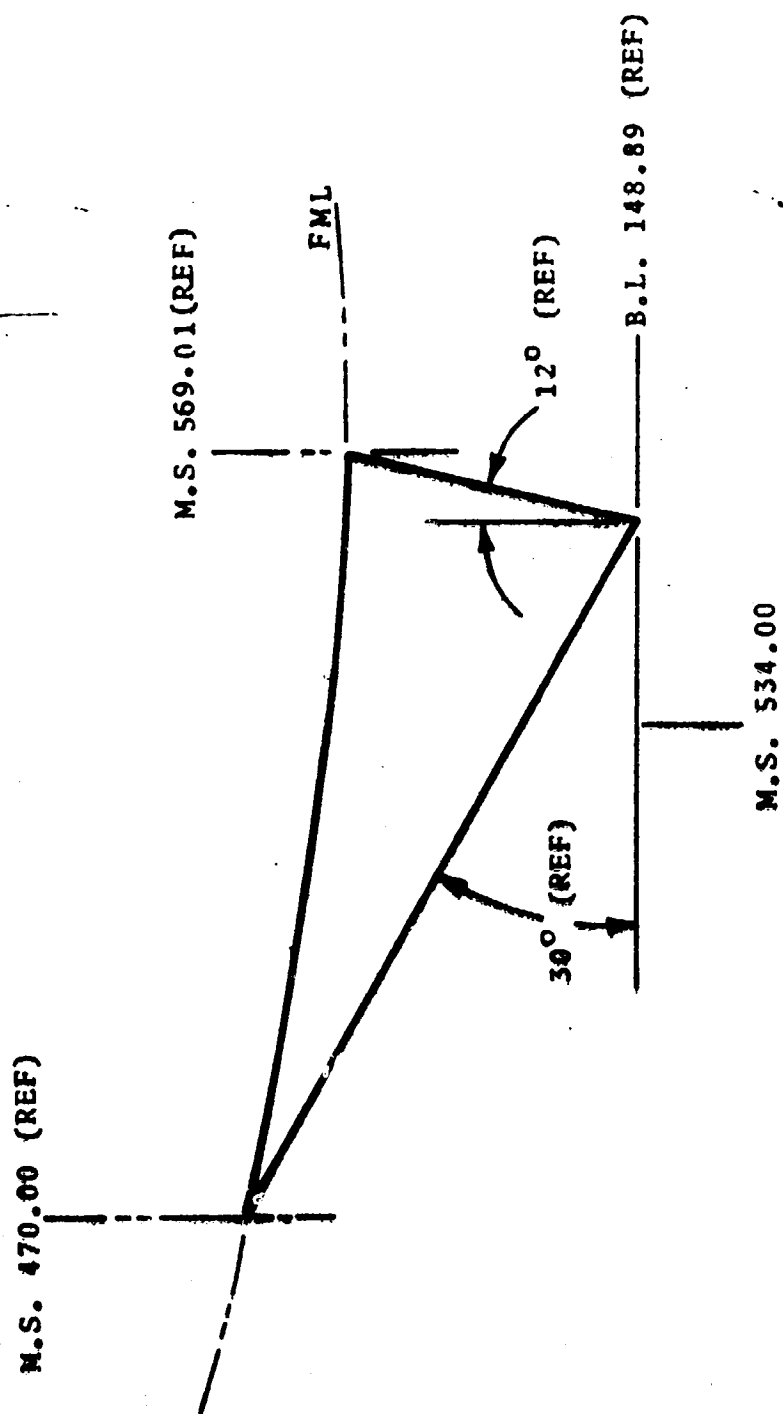
CLOVE MOUNTED



FUSELAGE MOUNTED

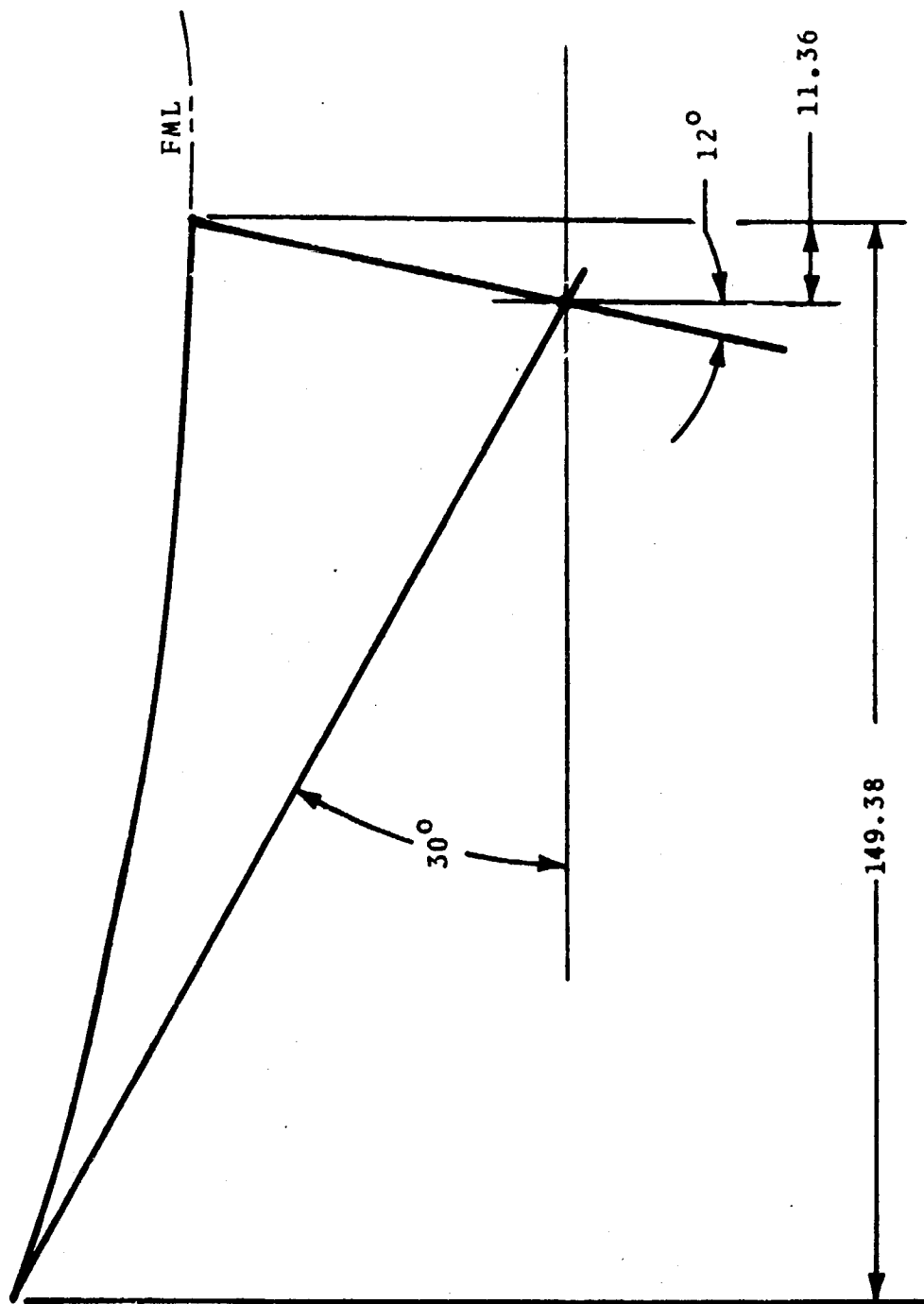


b. Trimmer Types
Figure 2. - Continued.

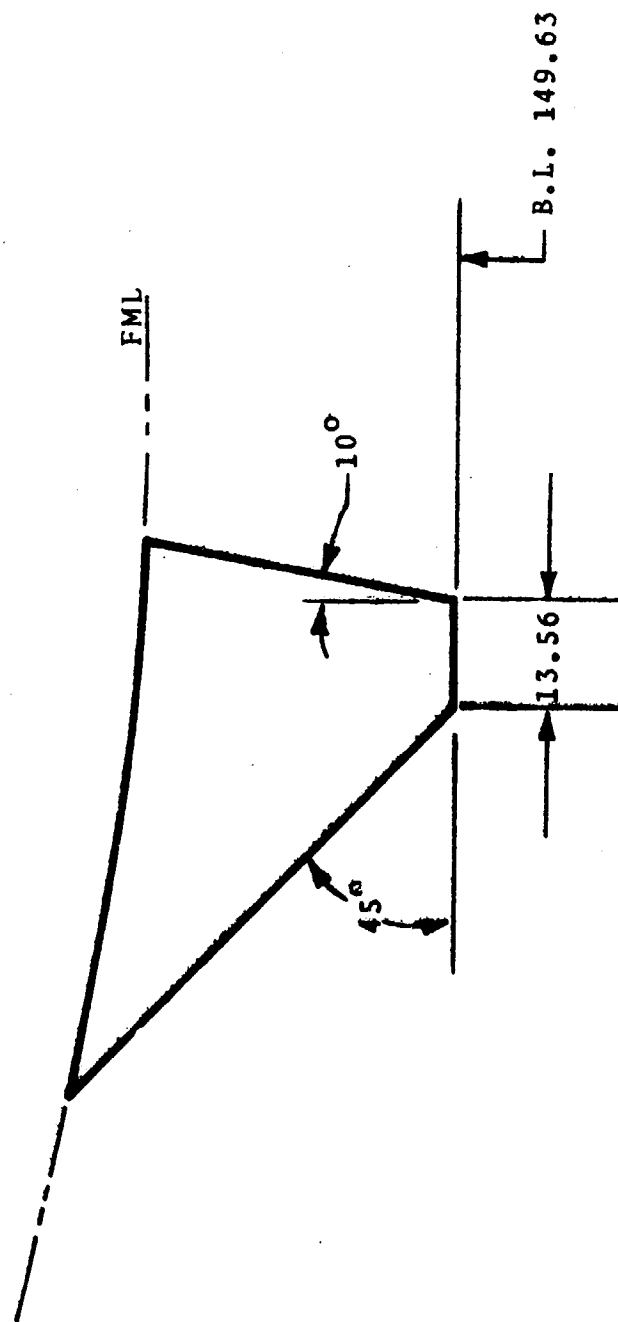


c. H₂ Trimmer

Figure 2. - Continued.

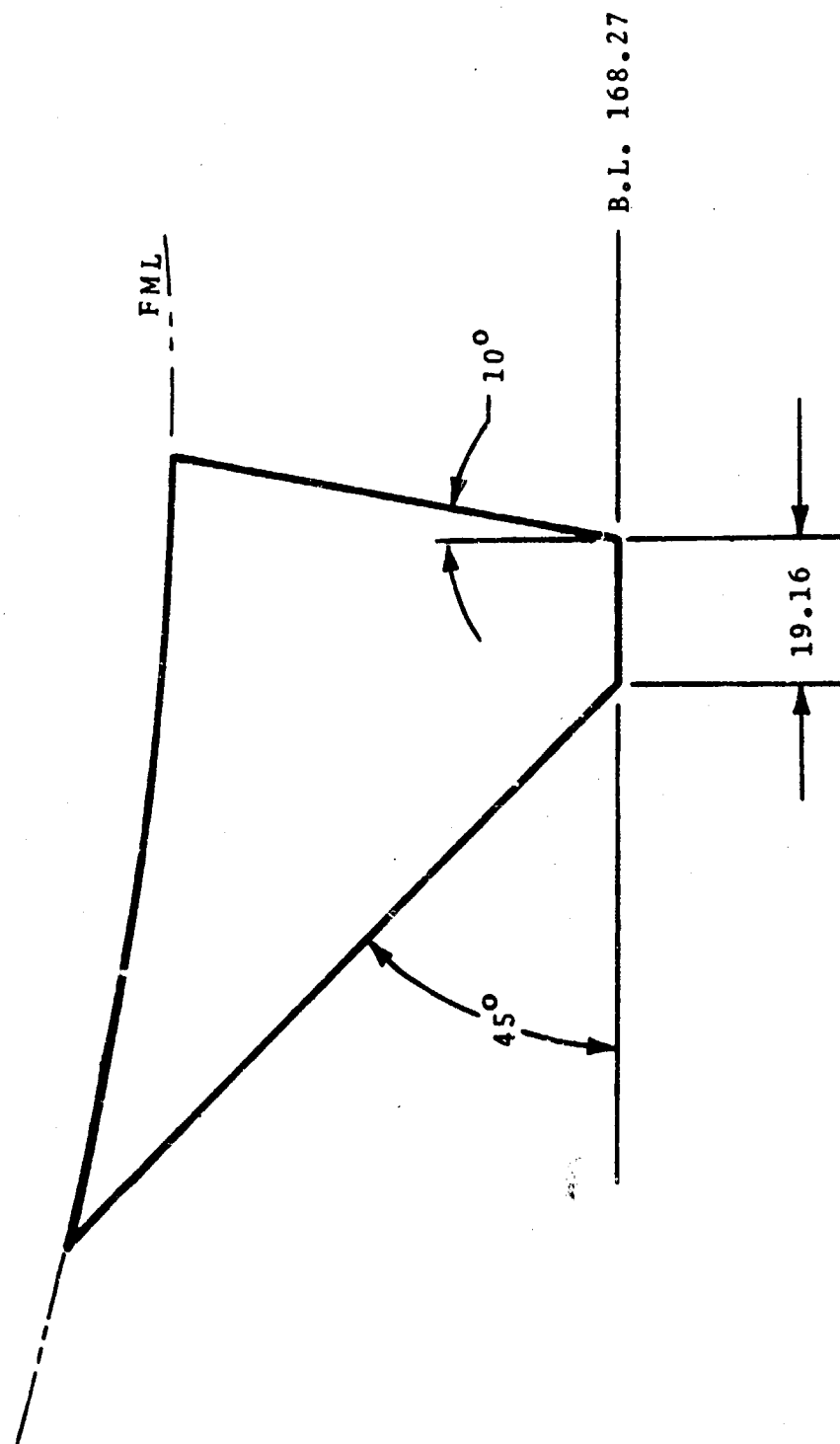


d. H₃ Trimmer
Figure 2. - Continued.



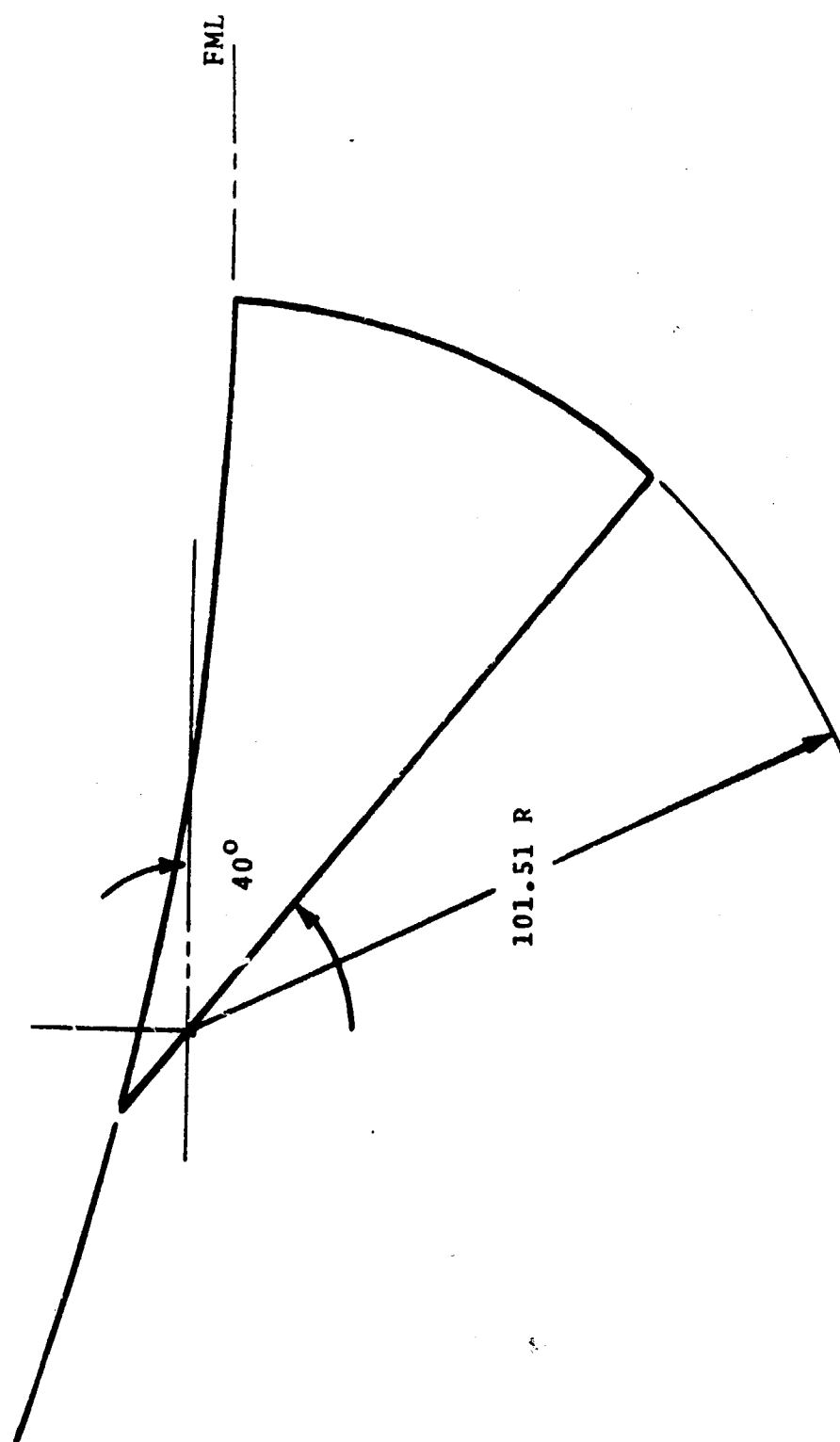
e. H₁ Trimmer

Figure 2. - Continued.

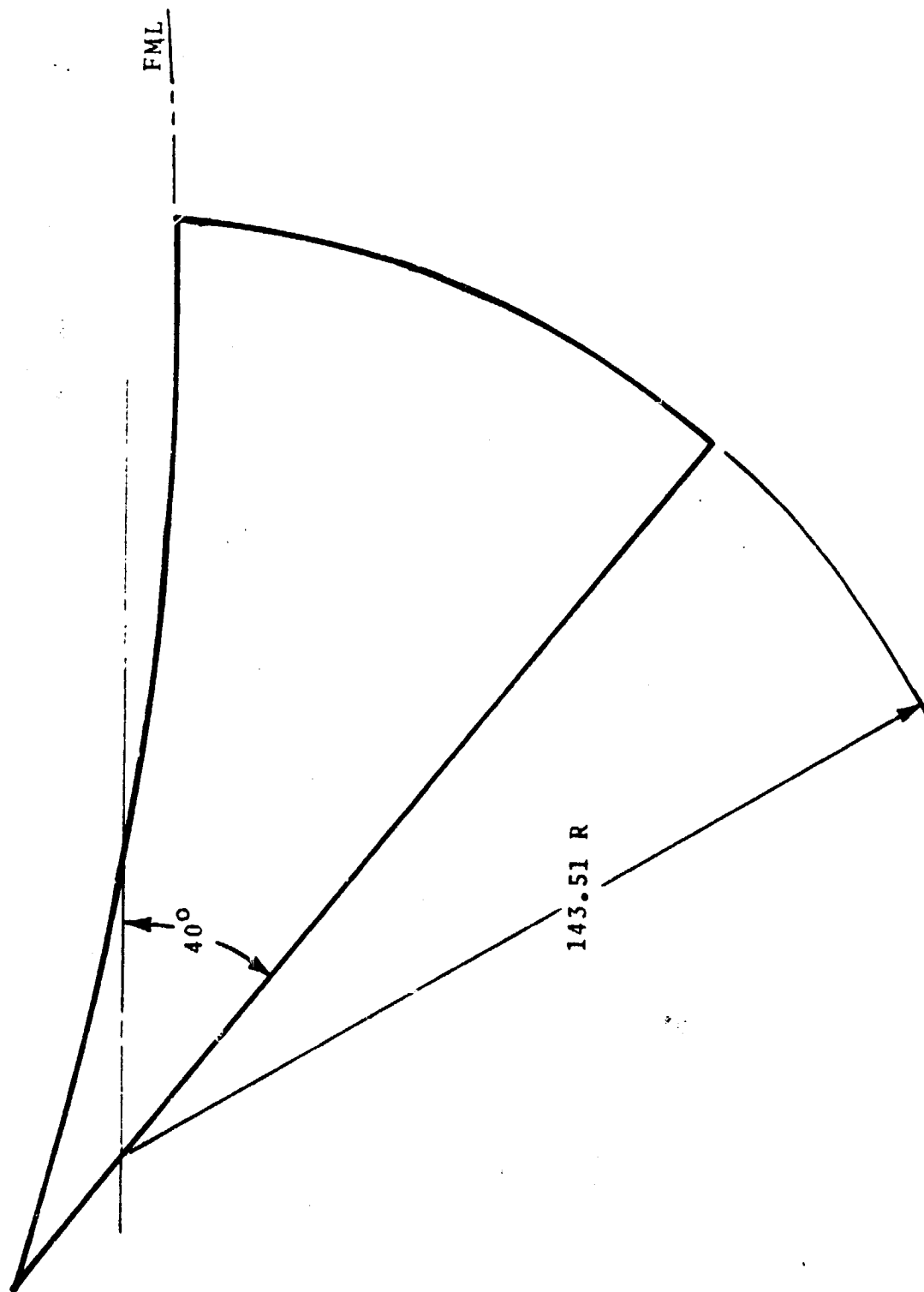


f. H₅ Trimmer

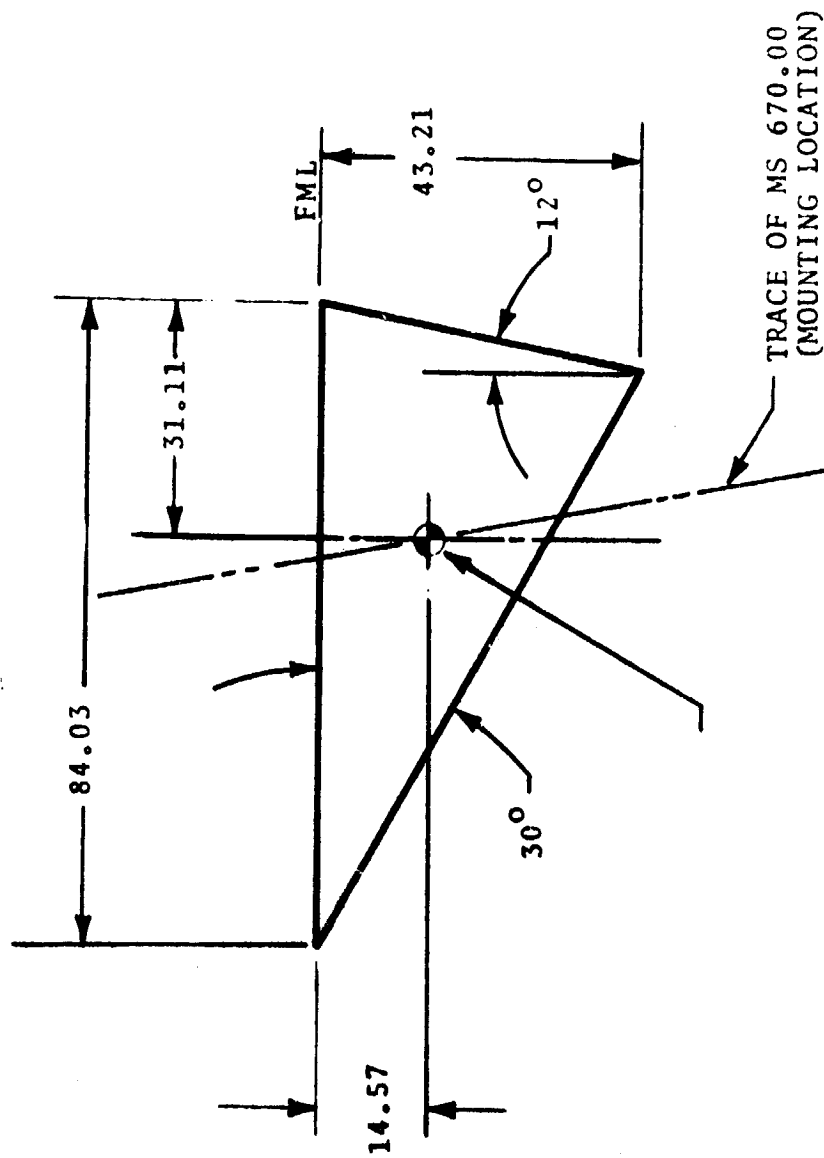
Figure 2. - Continued.



g. H₆ Trimmer
Figure 2. - Continued.

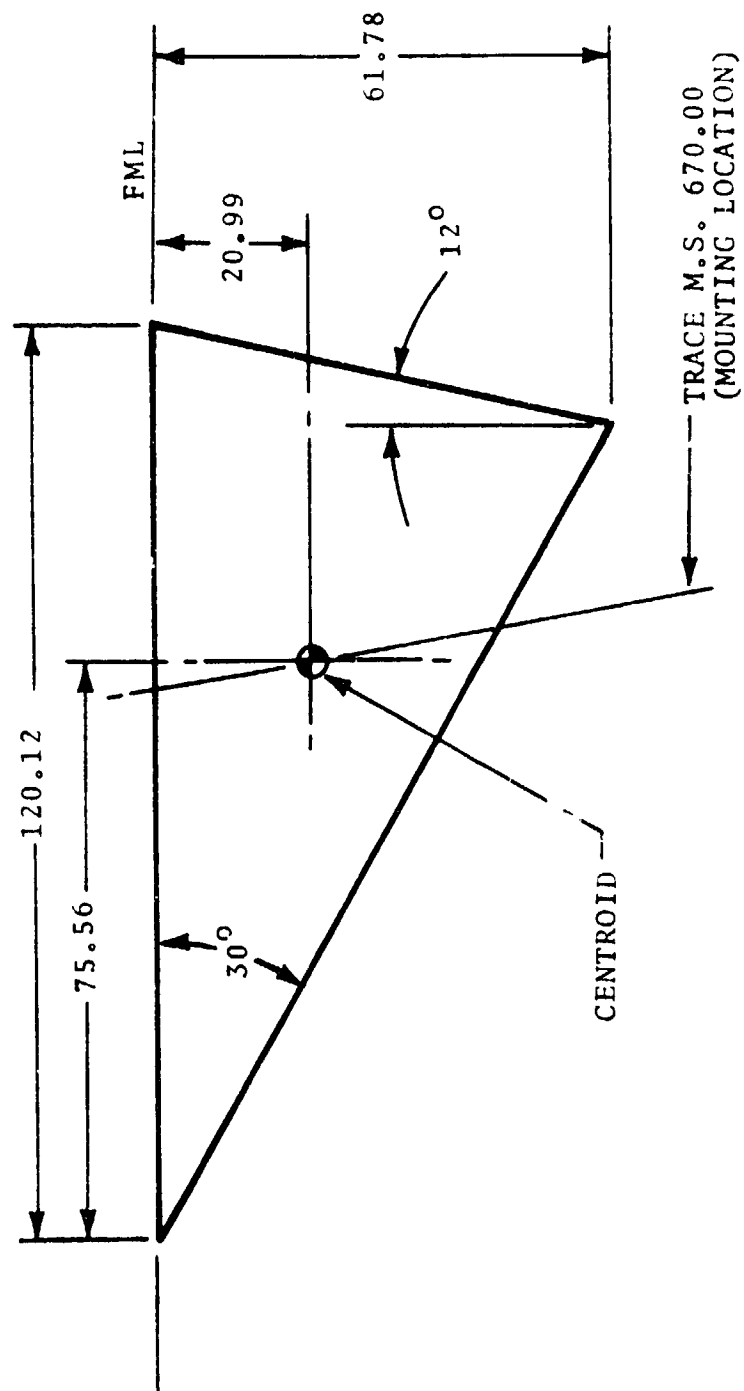


h. H_7 Trimmer
Figure 2. - Continued.



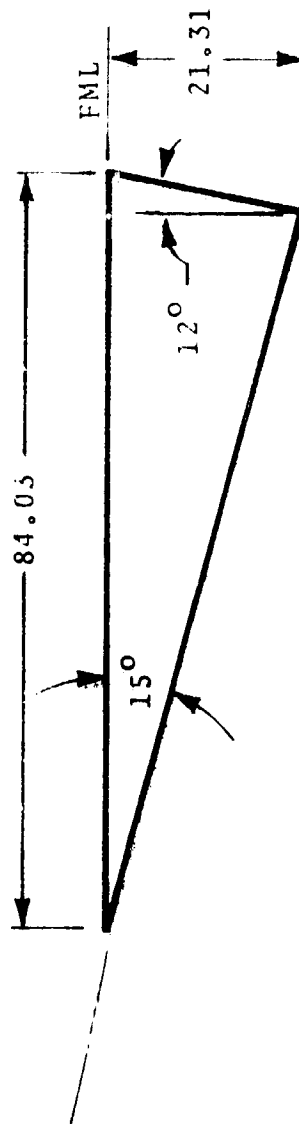
i. H8 Trimmer

Figure 2. - Continued.

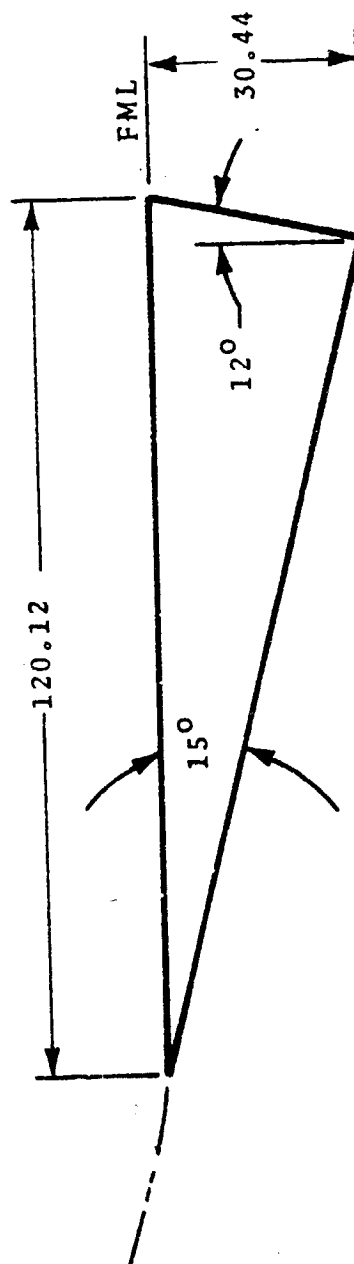


j. H₉ Trimmer

Figure 2. - Continued.

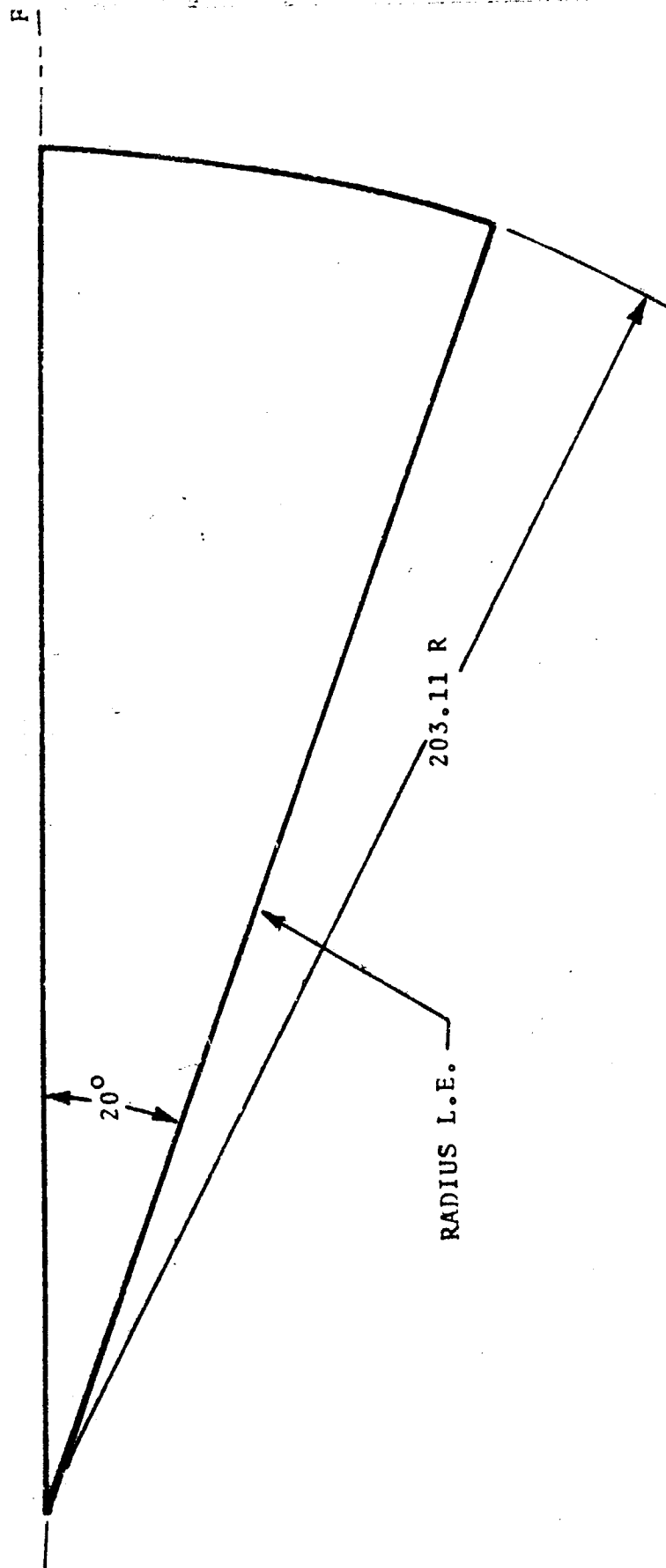


k. H₁₀ Trimmer
Figure 2. - Continued.



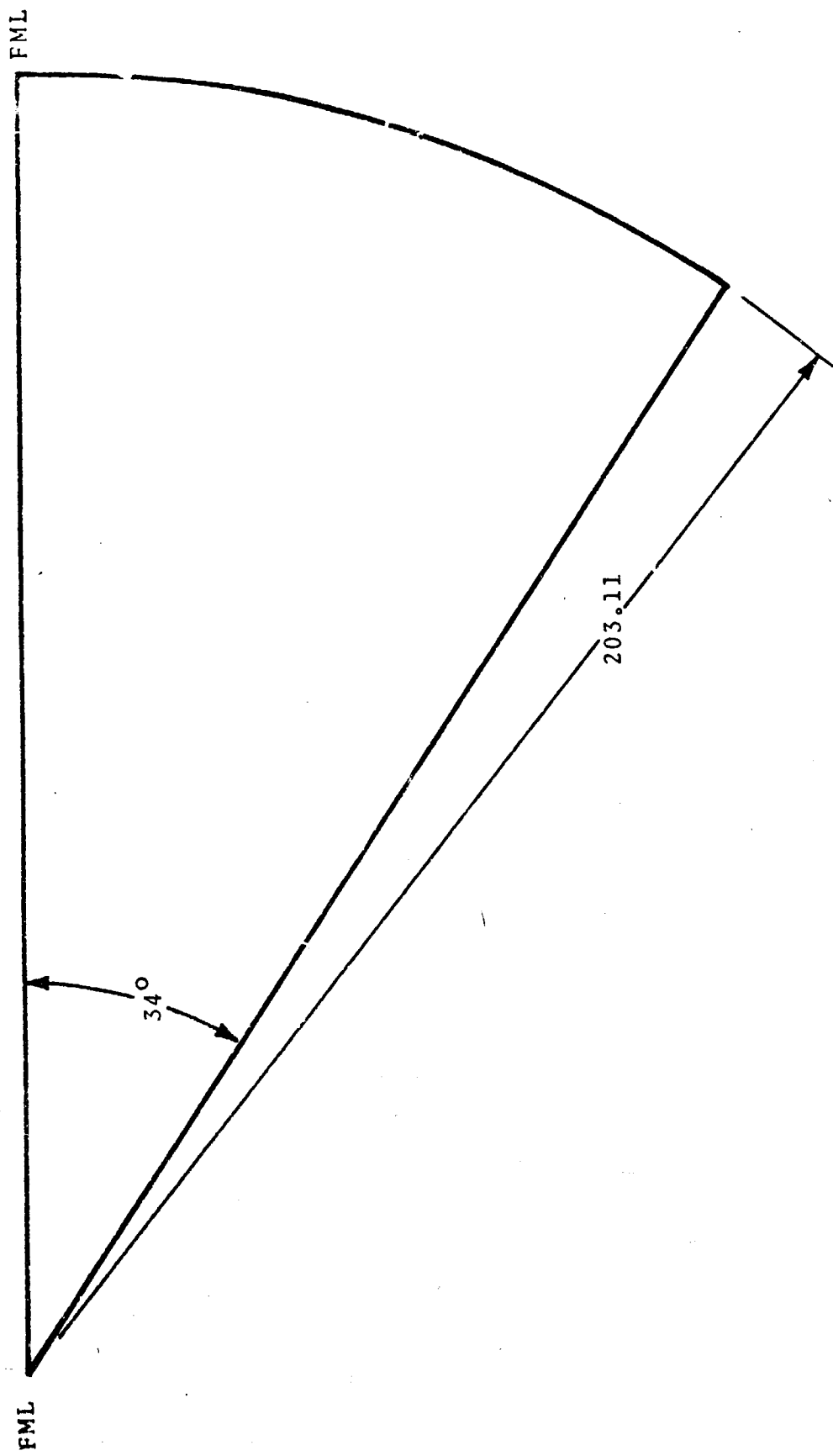
1. H₁₁ Trimmer

Figure 2. - Continued.

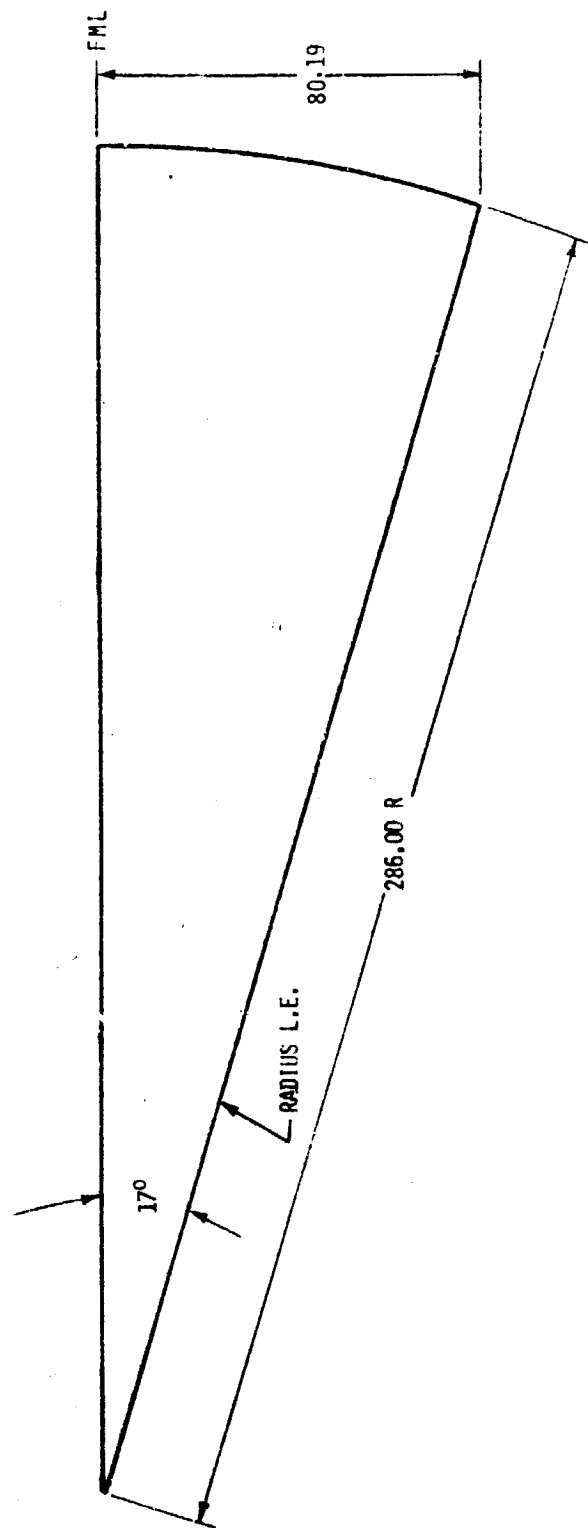


m. H₁₂ Trimmer

Figure 2. - Continued.

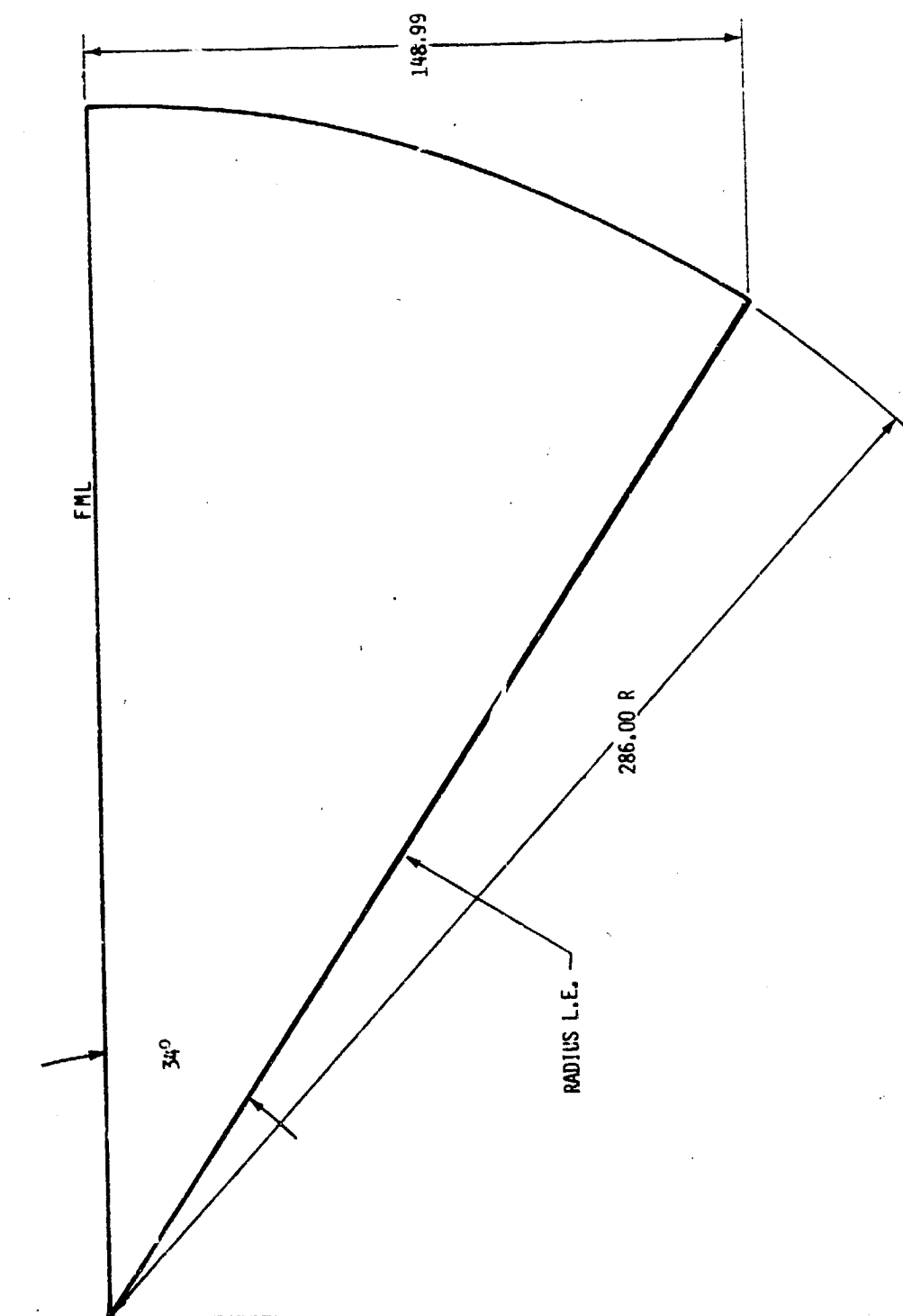


n. H₁₃ Trimmer
Figure 2. - Continued.



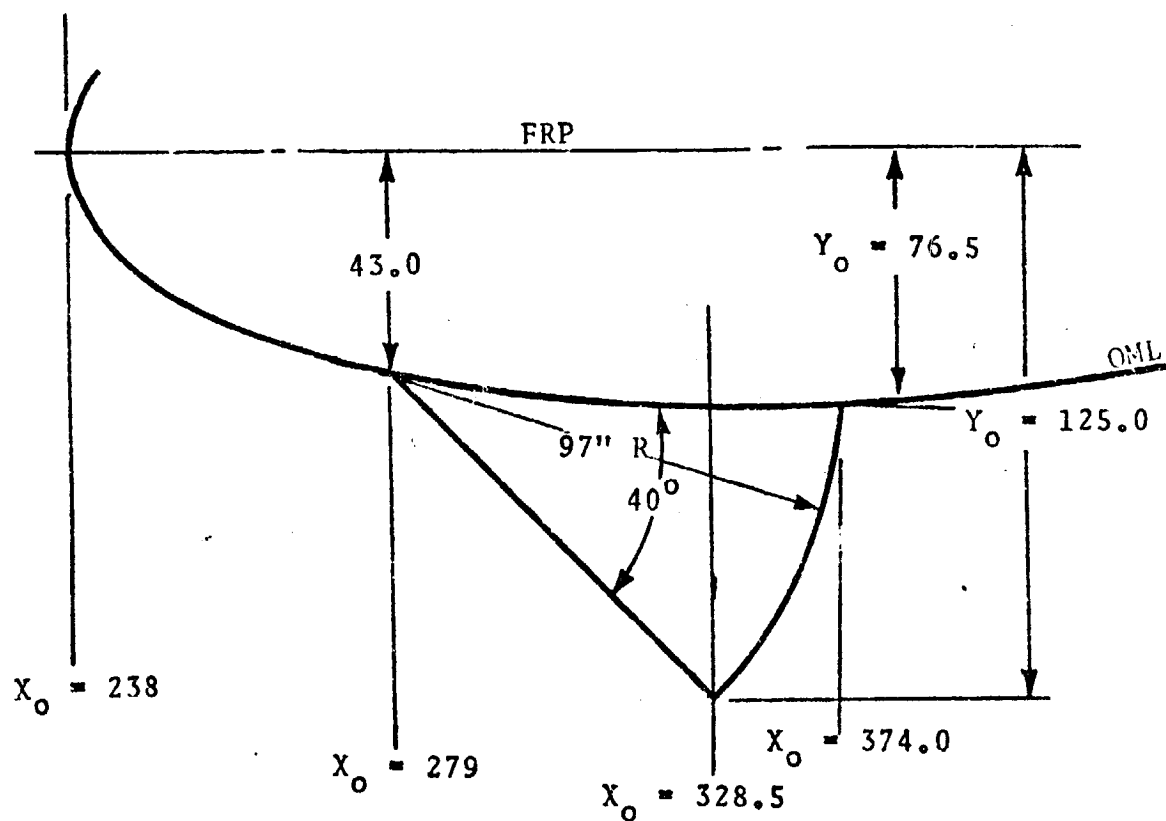
o. H₁₆ Trimmer

Figure 2. - Continued.



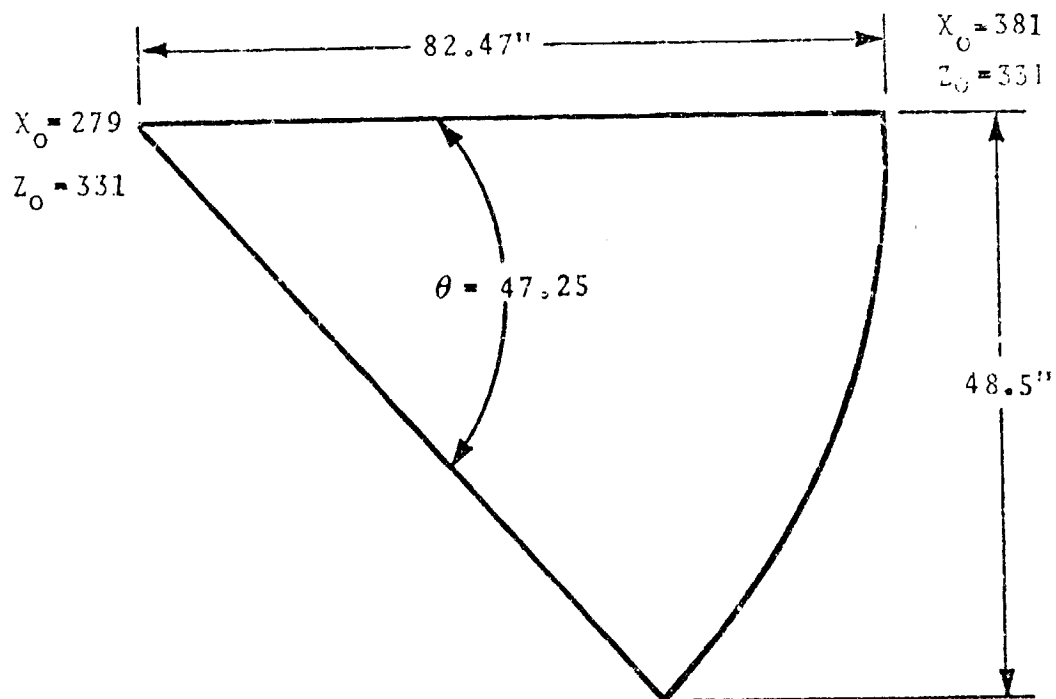
p. H₁₇ Trimmer

Figure 2. - Continued.



q. H_{23} Trimmer

Figure 2. - Continued.

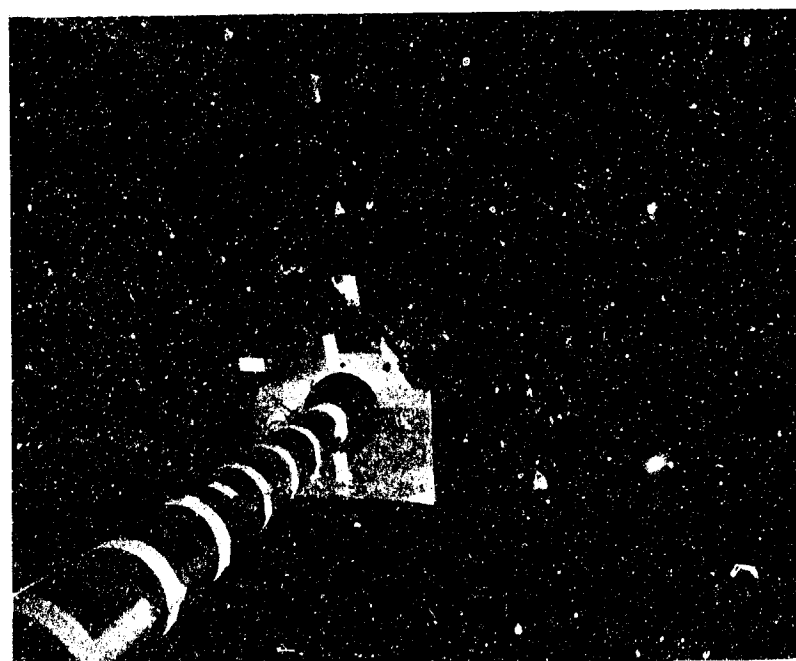


r. H₀₅ Trimmer

Figure 2. - Concluded.



a. Configuration: B19C7M4F5W107E23V7R6
Front View



b. Configuration: B19C7M4F5W107E23V7R6
Right Rear View

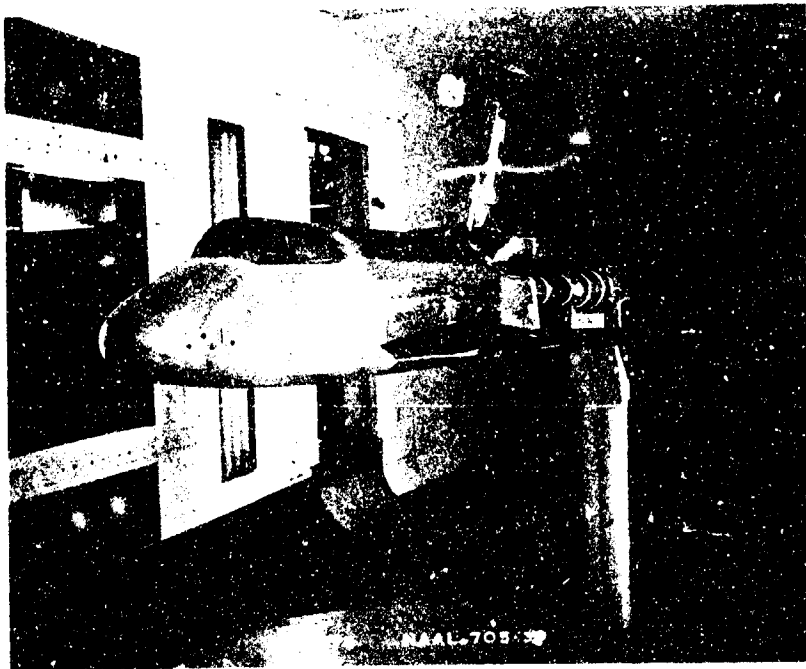
Figure 3. - Model Photographs



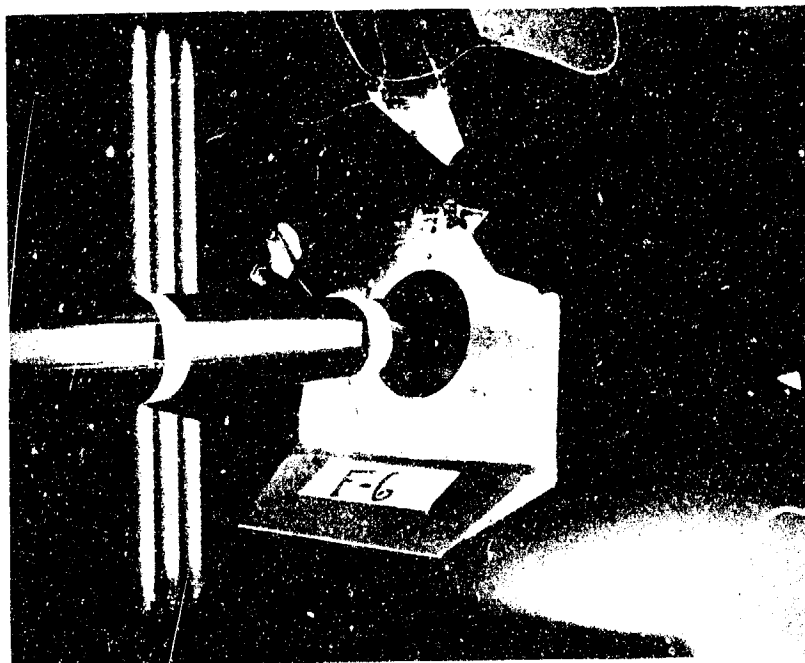
c. Configuration: B₁₉C₇M₄F₅W₁₀E₂₃V₇R₆
Left Rear View



d. Configuration: B₁₉C₇M₄F₅W₁₀E₂₃V₇R₆
Figure 3. - Continued

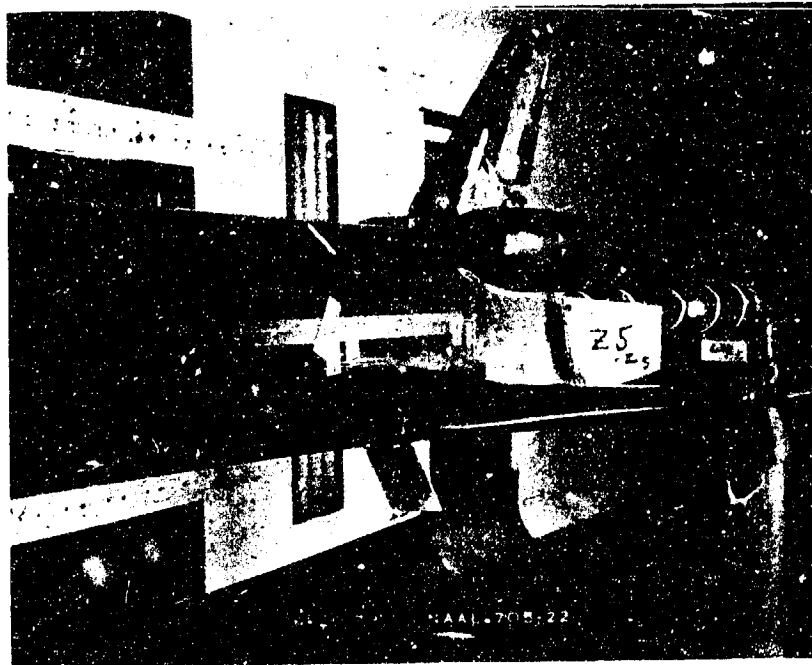


e. Configuration: B21C7M4F5W107E23V7R6

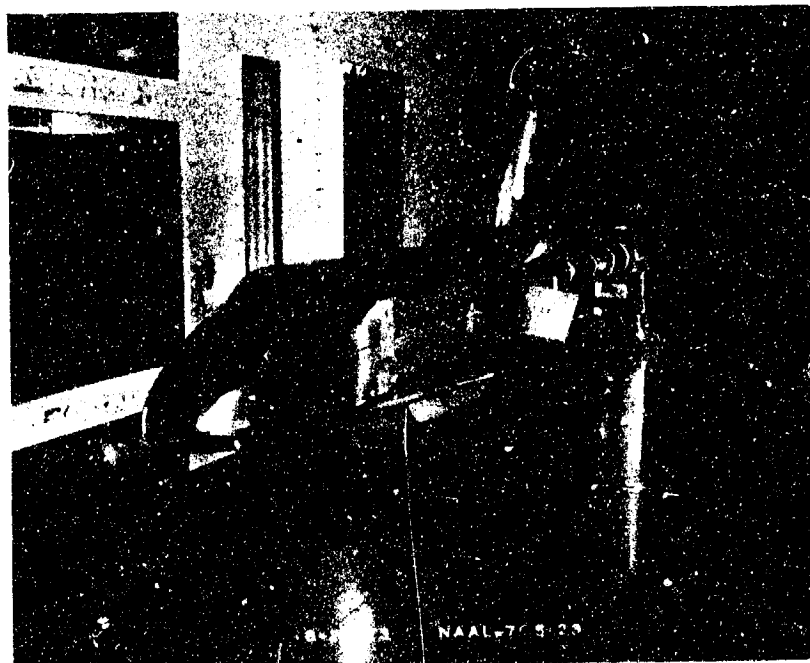


f. Configuration: B19C7M4F6W107E23V7R6

Figure 3. - Continued.

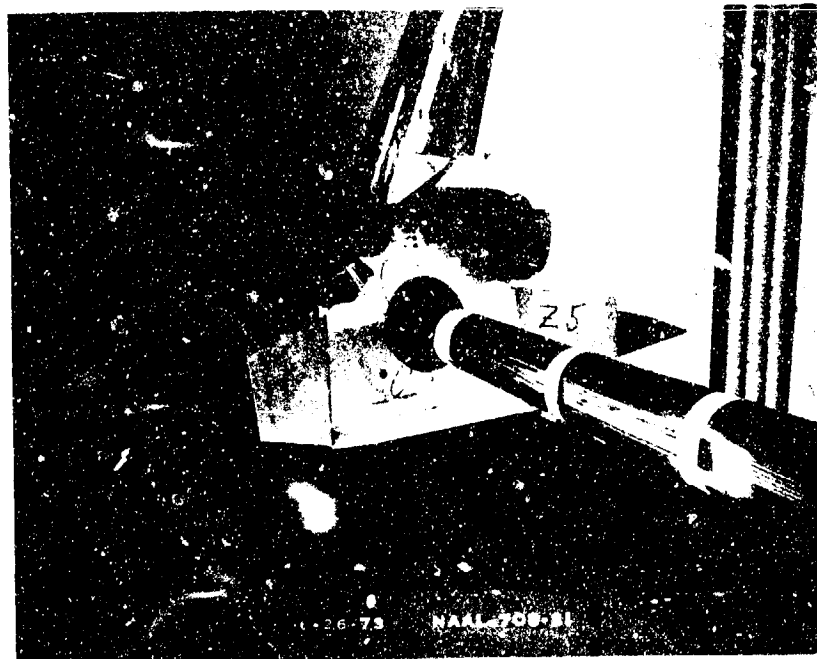


g. Configuration: B19 C7 M4 F5 W107 E23 V7 R6 Z5 Z5

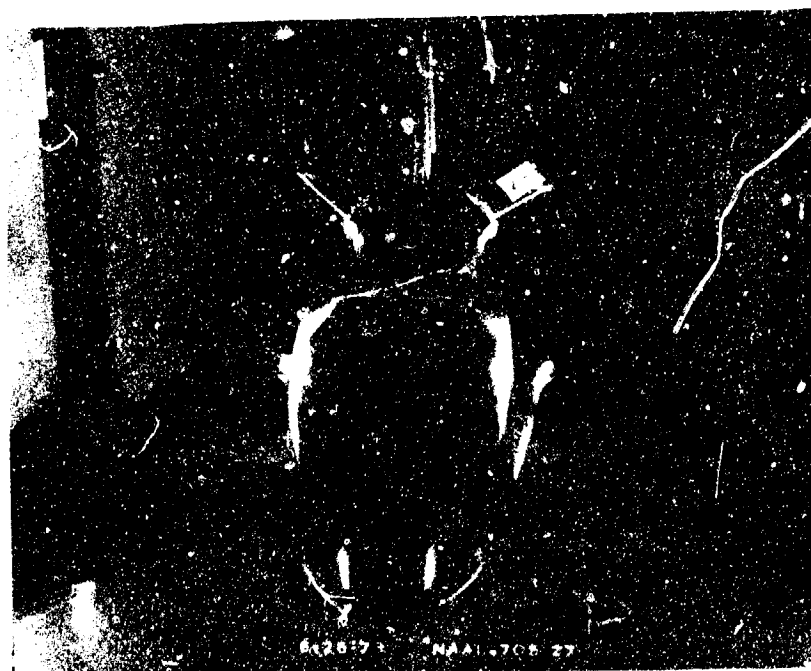


h. Configuration: B19 C7 M4 F5 W107 E23 V7 R6 Z5 Z5

Figure 3. - Continued.



1. Configuration: $B_{19} C_7 M_4 F_5 W_{107} E_{23} V_7 R_6 Z_5$

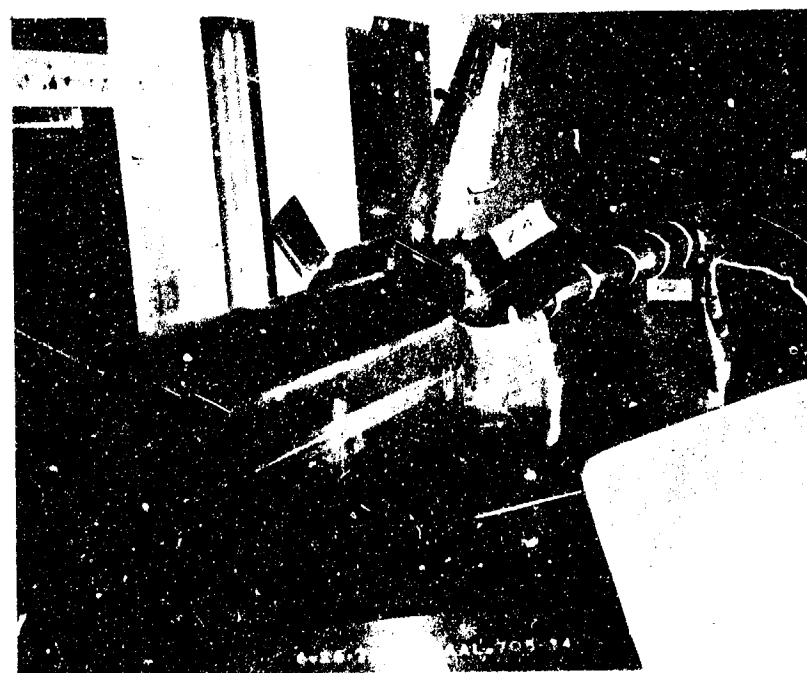


2. Configuration: $B_{19} C_7 M_4 F_5 W_{107} E_{23} V_7 R_6 Z_4$

Figure 3. - Continued.

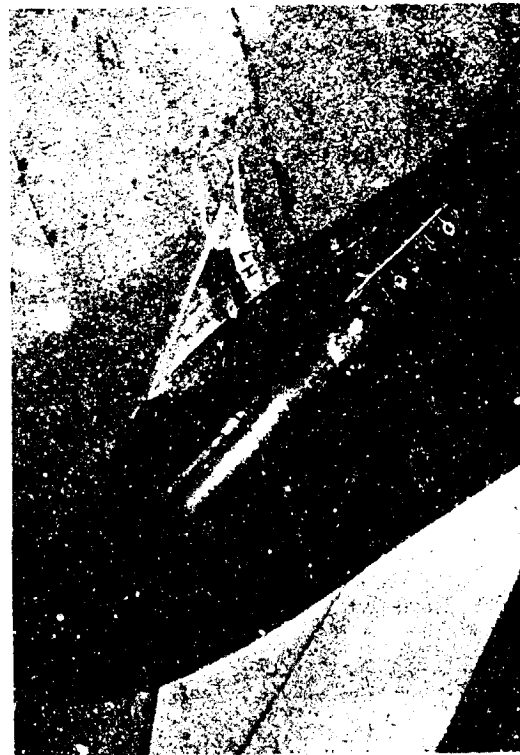


k. Configuration: $B_{19} C_7 M_4 F_5 W_{107} E_{23} V_7 R_6 Z_2 Z_3$



l. Configuration: $B_{19} C_7 M_4 F_5 W_{107} E_{23} V_7 R_6 Z_4$

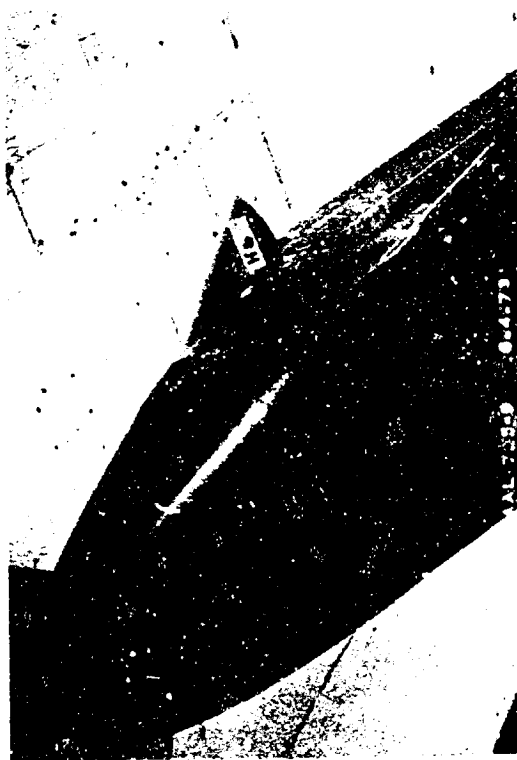
Figure 3. - Continued.



m. H7



o. H8



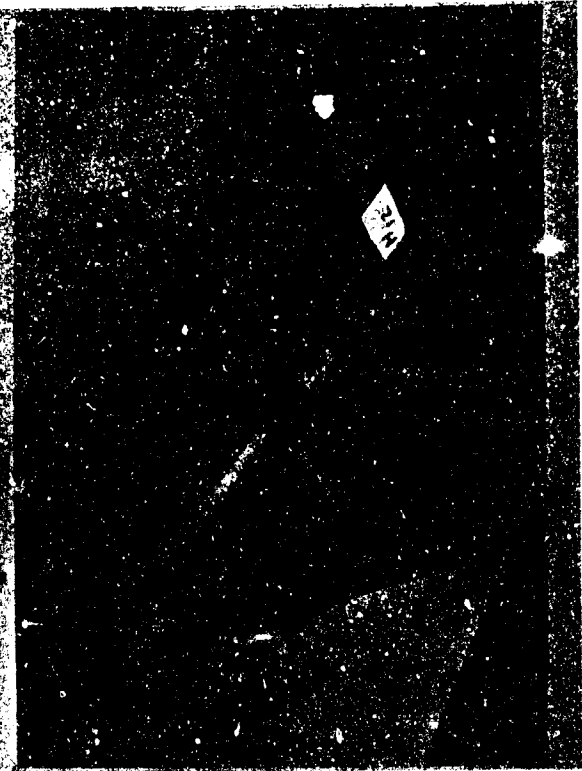
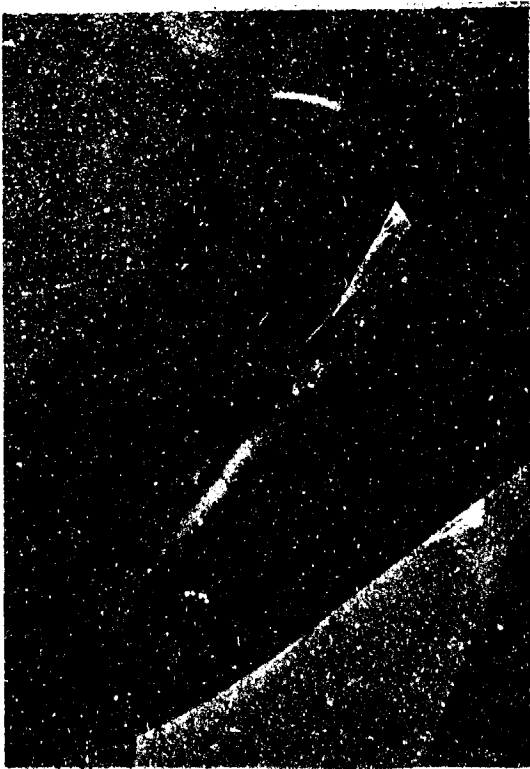
n. H6

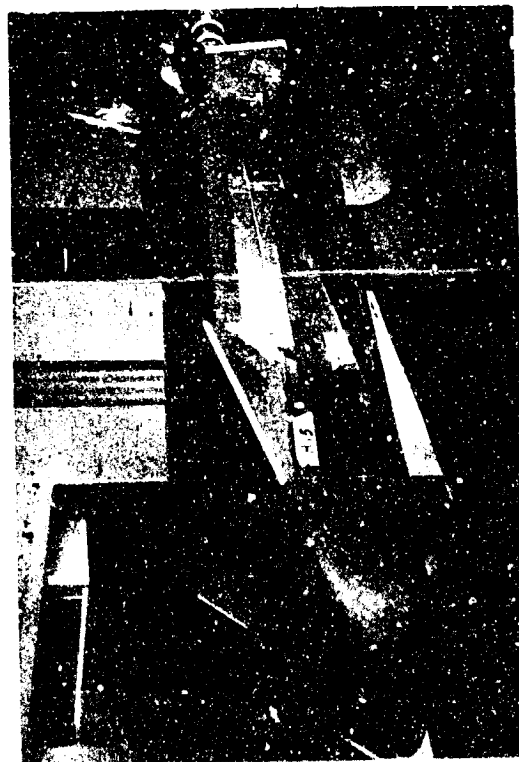


p. H9

Configuration: B19C7H M4F5W107E23V7R6X9

Figure 3. - Continued.





u. H15



v. H14



w. H16



x. H17

Configuration: B19C7H M4F5W107E23V7R6X9

Figure 3. - Continued.



y. H23



z. H18



aa. H24



bb. H25

Configuration B19C7H M4F5N107B23V7R6X9

Figure 3. - Concluded.

DATA FIGURES

| SPR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| SPR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| SPR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| SPR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| SPR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| SPR | 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

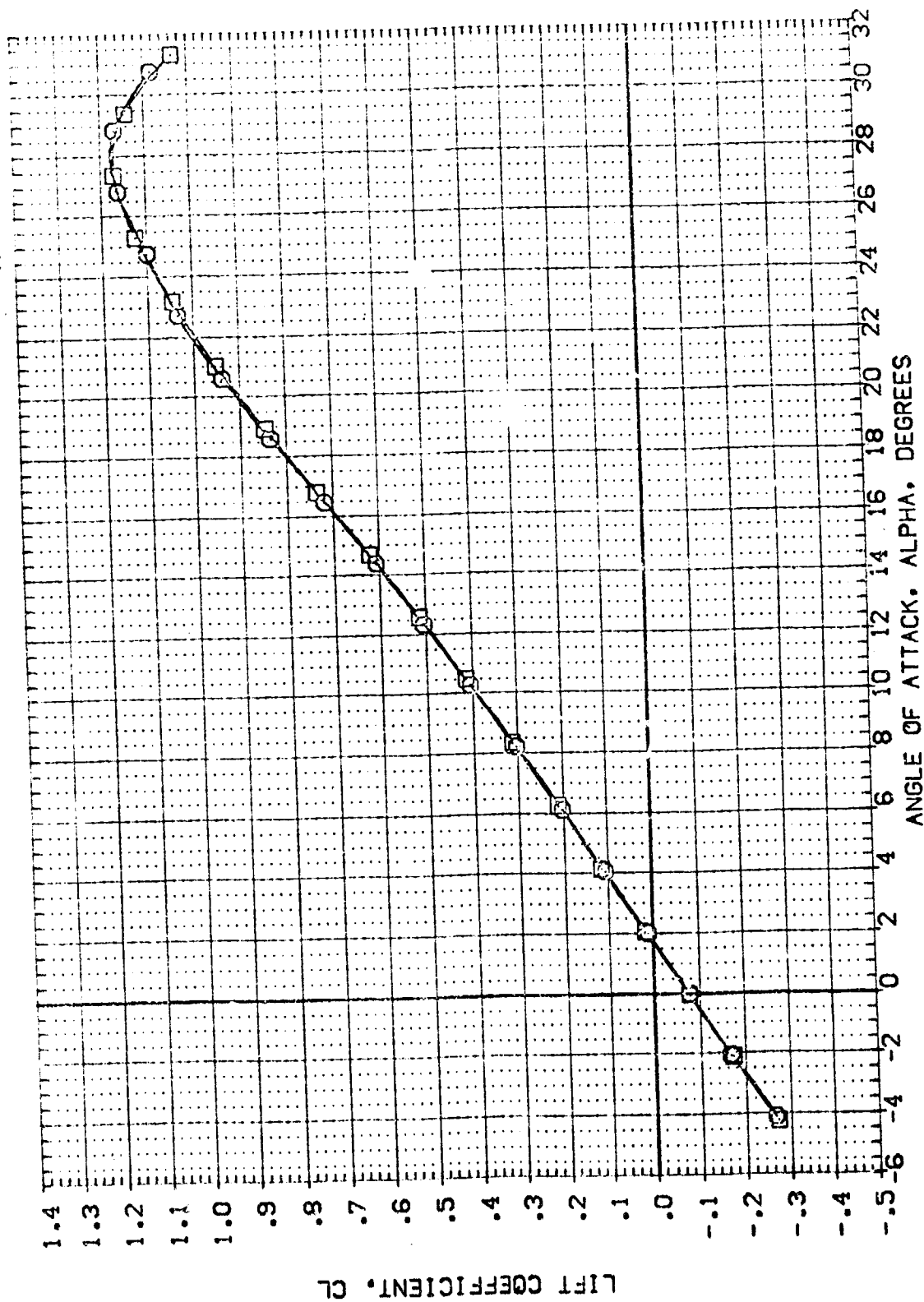


FIGURE 81 CONFIG 139B REYNOLDS NUMBER EFFECT

| | | | | | |
|-----------------|-------------|---------------------------|-------------|-----------------------|----------------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (107231) | 0A218 B1SC7 | MAFS | V107E23V7RS | SREF | 4.4119 SQ.FT. |
| (107184) | 0A218 B1SC7 | MAFS | V107E23V7RS | LRGF | 19.2739 INCHES |
| | | | | BRGF | 37.9353 INCHES |
| | | | | XREF | 43.5374 INCHES |
| | | | | YREF | 15.2000 INCHES |
| | | | | ZREF | 15.2000 INCHES |
| | | | | SCALE | .0105 |

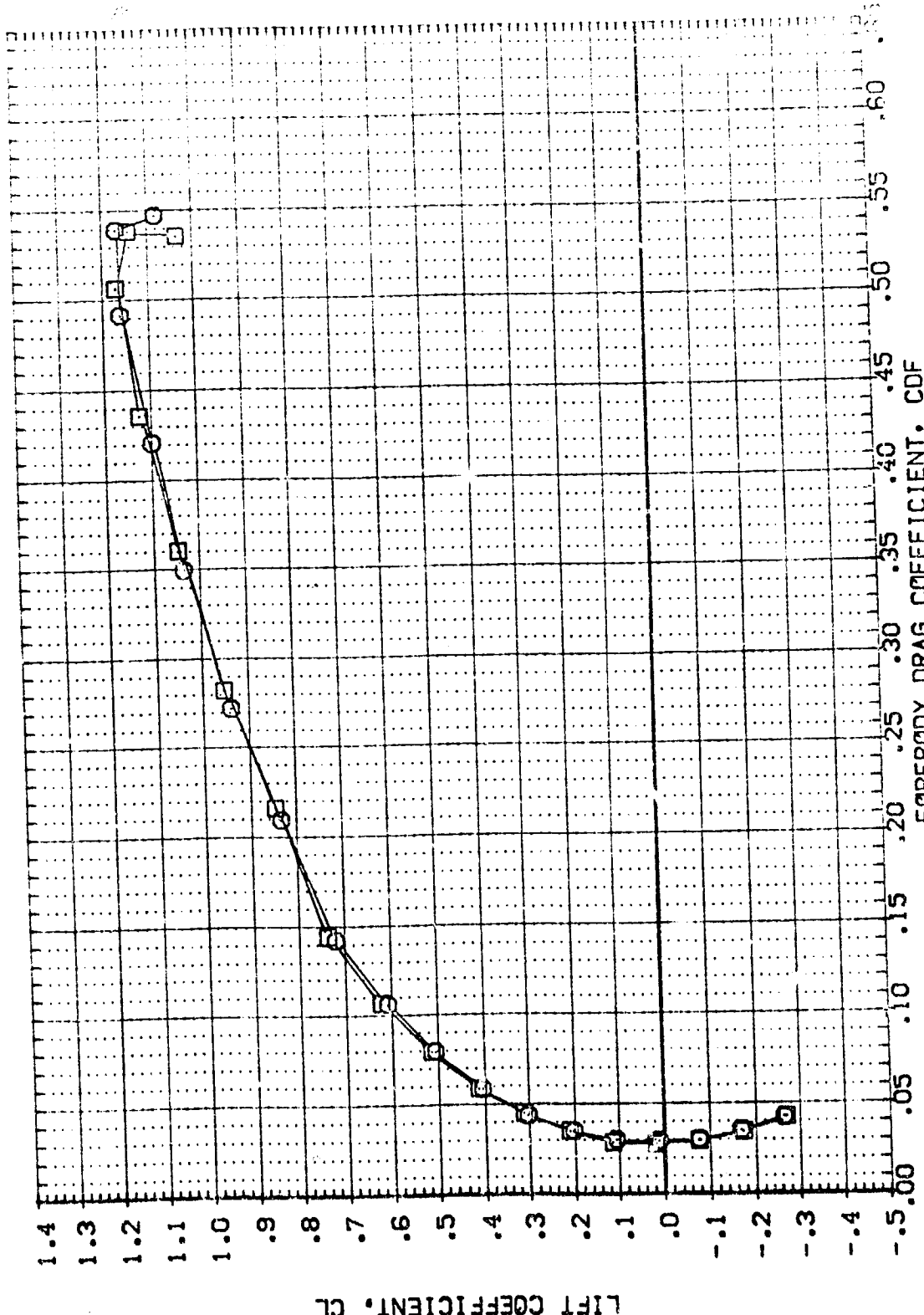


FIGURE 81 CONFIG 139B REYNOLDS NUMBER EFFECT



| | | | | | | |
|-----------------|------------------------------|---------|-------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | 0 | RVL | SPDRK | BOFLAP | REFERENCE INFORMATION |
| (IDP231) | 0A218 815C7 M4FS V107E23V7R6 | 40.000 | 1.150 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (IDP104) | 0A219 815C7 M4FS V107E23V7R6 | 100.000 | 1.850 | 25.000 | -18.000 | LREF 19.2253 INCHES |
| | | | | | | MREF 37.1303 INCHES |
| | | | | | | XREF 43.5874 INCHES |
| | | | | | | YREF 16.0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

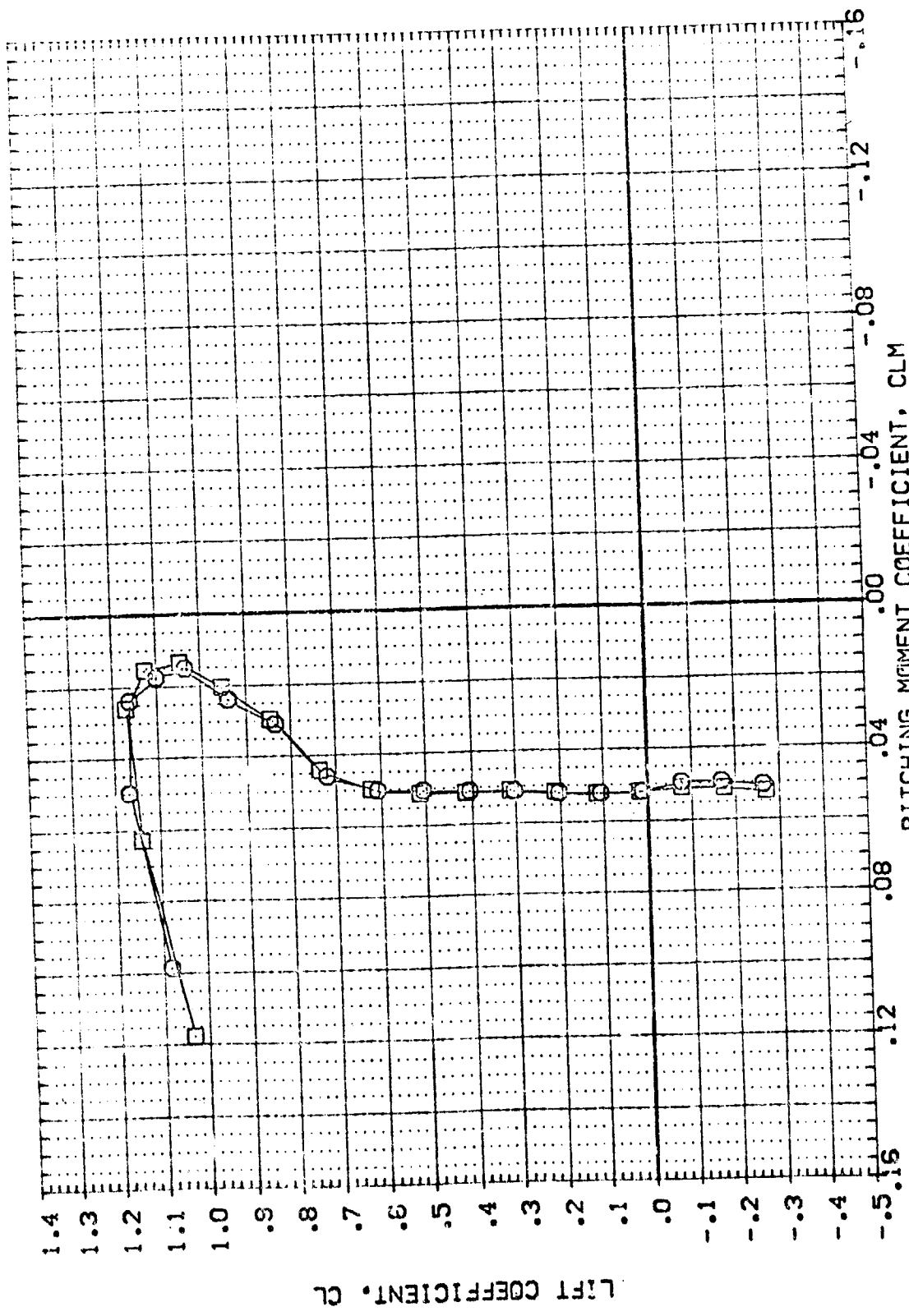


FIGURE 81 CONFIG 139B REYNOLDS NUMBER EFFECT

DATA SET SYMBOL: 8
 CONFIGURATION DESCRIPTION: QAZ1B B19C7 MAF5 V107E23V7R6
 G: 40.000, 100.000
 RV/L: 1.150, 1.850
 SP/BRK: 25.000, 25.000
 BO/LAP: -16.000, -16.000
 REFERENCE INFORMATION:
 SREF: 4.4119
 LREF: 19.2223
 BREF: 37.5039
 XREF: 43.9374
 YREF: 0.0000
 ZREF: 16.2000
 SCALE: 0.0406

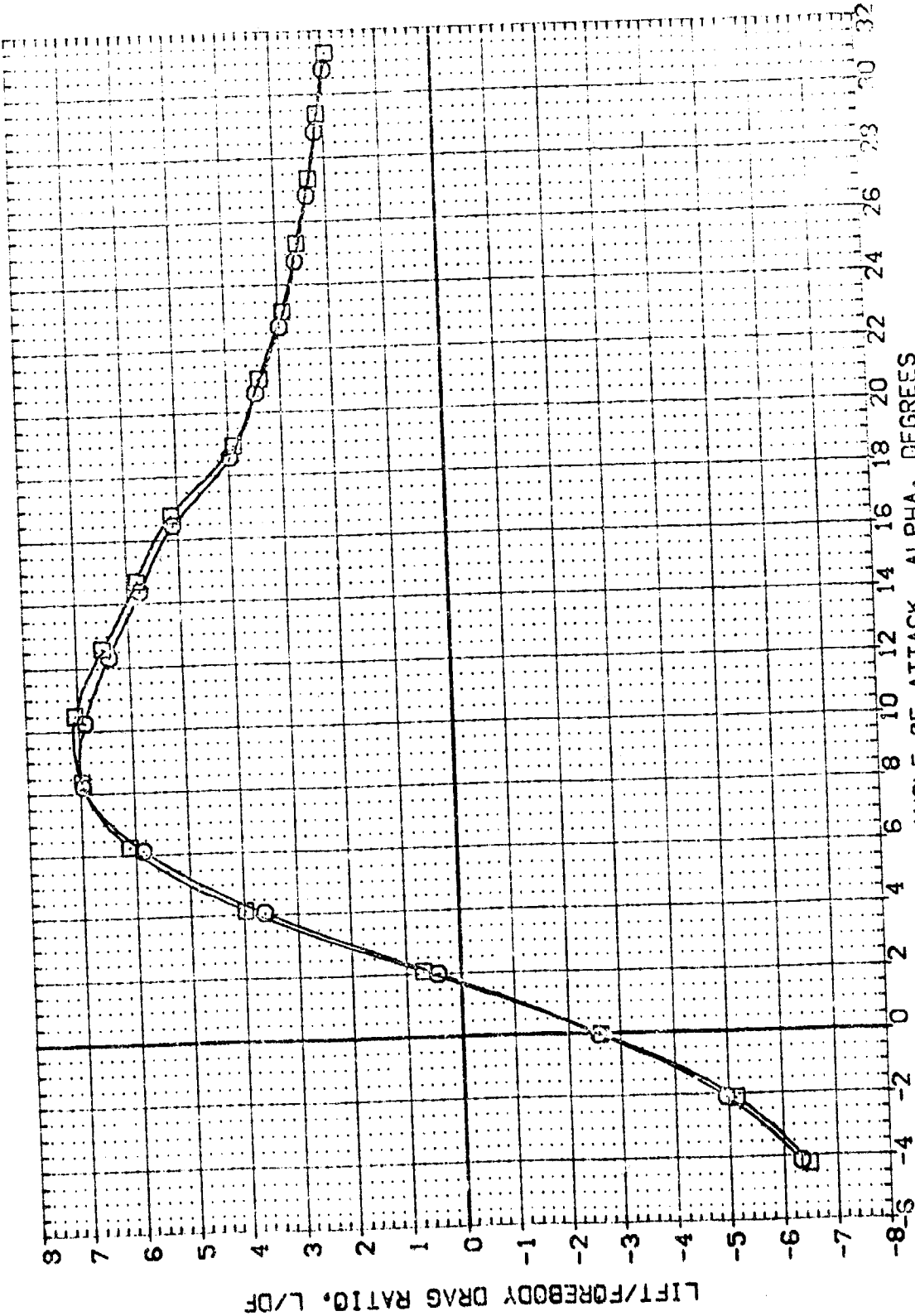


FIGURE 81 CONFIG 139B REYNOLDS NUMBER EFFECT

DATA SET 5120L CONFIGURATION DESCRIPTION
 (ID221) □ 0A21B 910C7 M4F5 V107E23V7R6
 (ID2164) □ 0A21B 810C7 M4F5 V107E23V7R6

Q 40,000
 100,000

RN/L 1.150
 1.650

SP00RX 25,000
 25,000

BOFLAP -18.000
 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2229 INCHES
 BREF 37.5359 INCHES
 XREF 43.5974 INCHES
 YREF 0.000 INCHES
 ZREF 15.2620 INCHES
 SCALE .0405

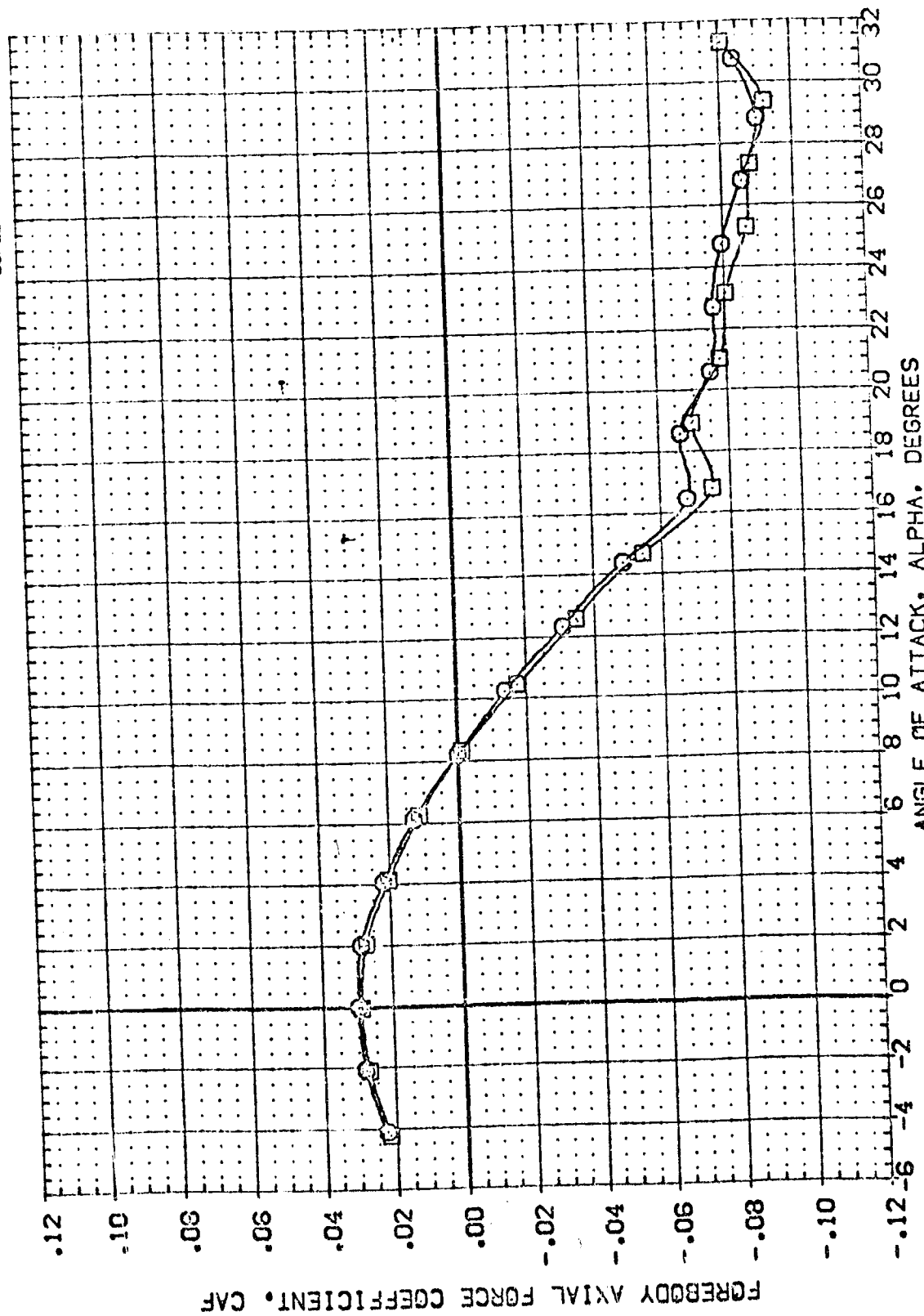


FIGURE 81 CONFIG 139B REYNOLDS NUMBER EFFECT

DATA SET SYMBOL: 81
 CONFIGURATION DESCRIPTION: 0A21B B19C7 MAF5 V107E23V7R5
 (10P231) (10P184)

REFERENCE INFORMATION:
 SREF: 4.4119
 LREF: 19.000
 DREF: 37.000
 XREF: 43.000
 YREF: 16.000
 ZREF: 16.000
 SCALE: 16.000

BASE AXIAL FORCE COEFFICIENT, CAB
 RVL: 1.150
 SPDRK: 25.000
 EDELAP: -19.000
 Q: 40.000
 100.000

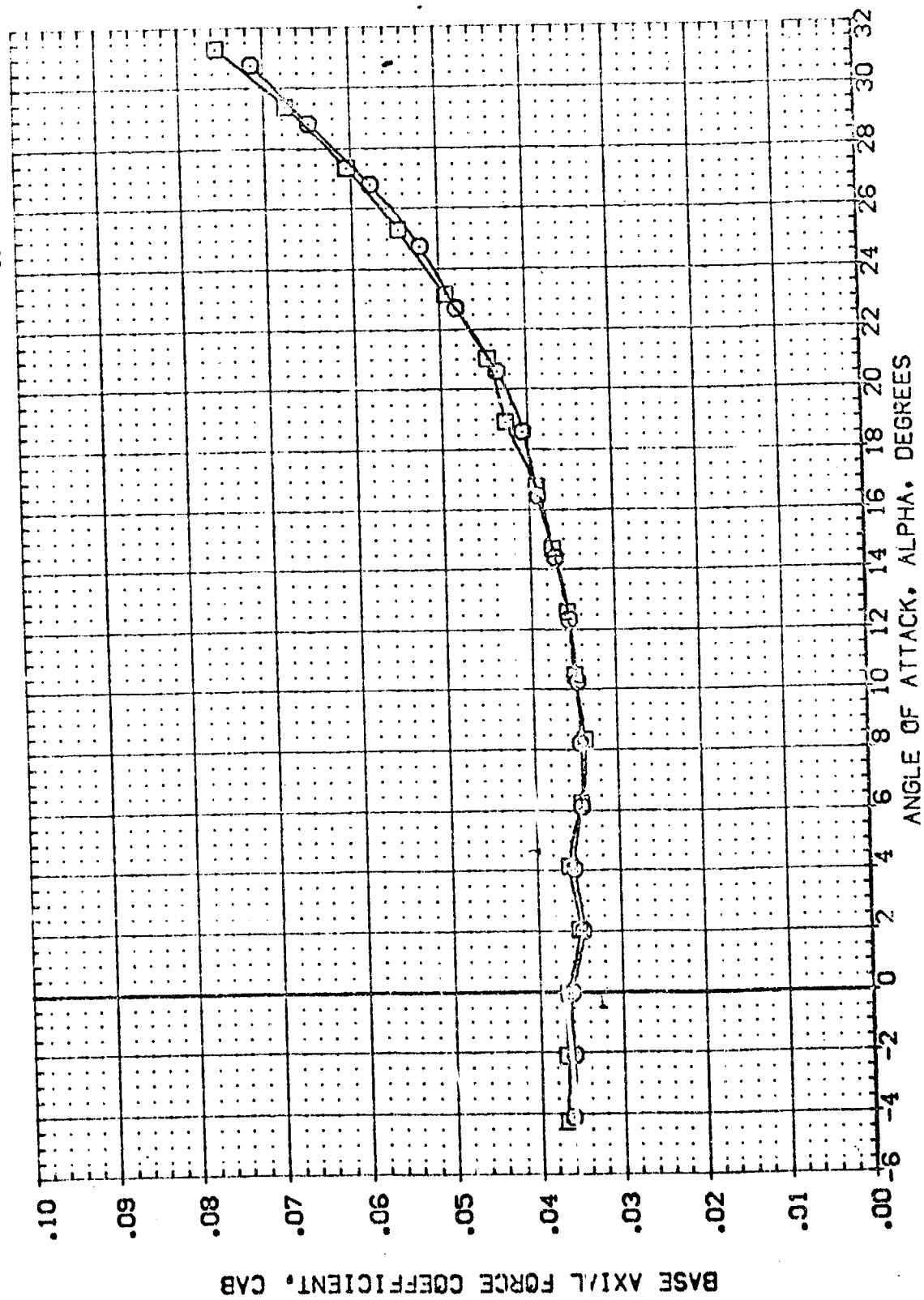


FIGURE 81 CONFIG 139B REYNOLDS NUMBER EFFECT

DATA SET SYMBOL: 0218 B13C7 MAFS V107E23V7R6
 (10P231) 0218 B13C7 MAFS V107E23V7R6
 (10P184)

0 40.000 100.000
 RVAL 1.150 1.850
 SPOBRK 25.000 25.000
 EDOFLAP -18.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2239 INCHES
 BREF 37.9339 INCHES
 XREF 43.5374 INCHES
 YREF 0.000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

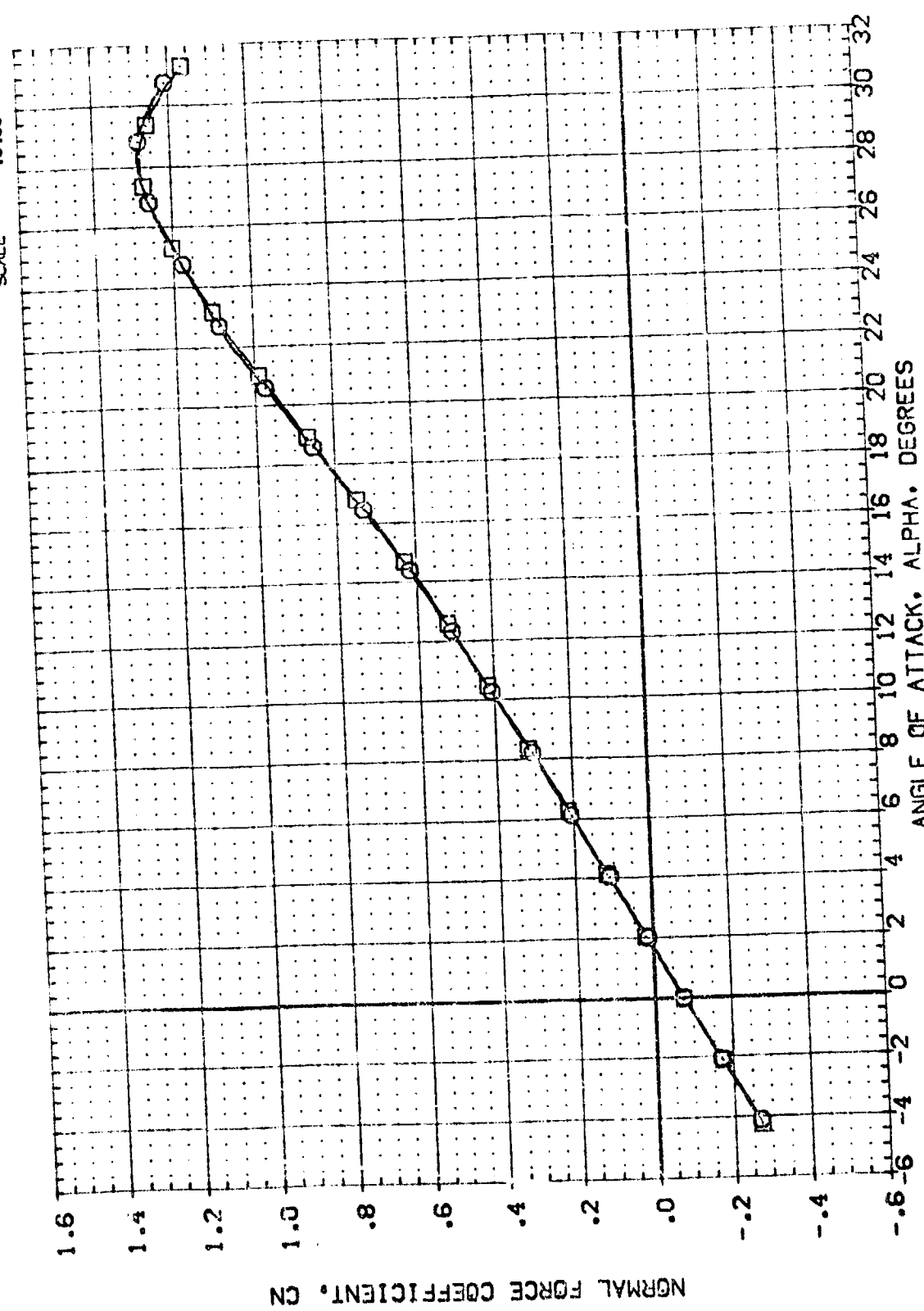
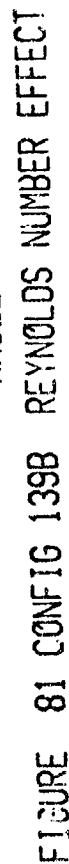


FIGURE 81 CONFIG 13CB REYNOLDS NUMBER EFFECT

| REFERENCE INFORMATION | | SQUFT: | |
|-----------------------|---------|--------|--------|
| | | INCHES | INCHES |
| SREF | 4.4113 | | |
| LREF | 19.2293 | | |
| BREF | 37.6267 | | |
| XREF | 43.5774 | | |
| YREF | 10.0000 | | |
| ZREF | 16.2000 | | |
| SCALE | 1.0005 | | |



DATA SET SYMBOL: 82
 CONFIGURATION DESCRIPTION: 0A21B B1SC7 MAFS V112523V7R6
 REFERENCE INFORMATION:
 SPEC: 4.4118
 LREF: 19.7000
 XREF: 49.5000
 YREF: 16.2000
 ZREF: 16.2000
 SCALE: 1.0000

ELEVON: .000
 AIRCEN: .000
 SPDRK: 25.000
 BOFLAP: -18.000

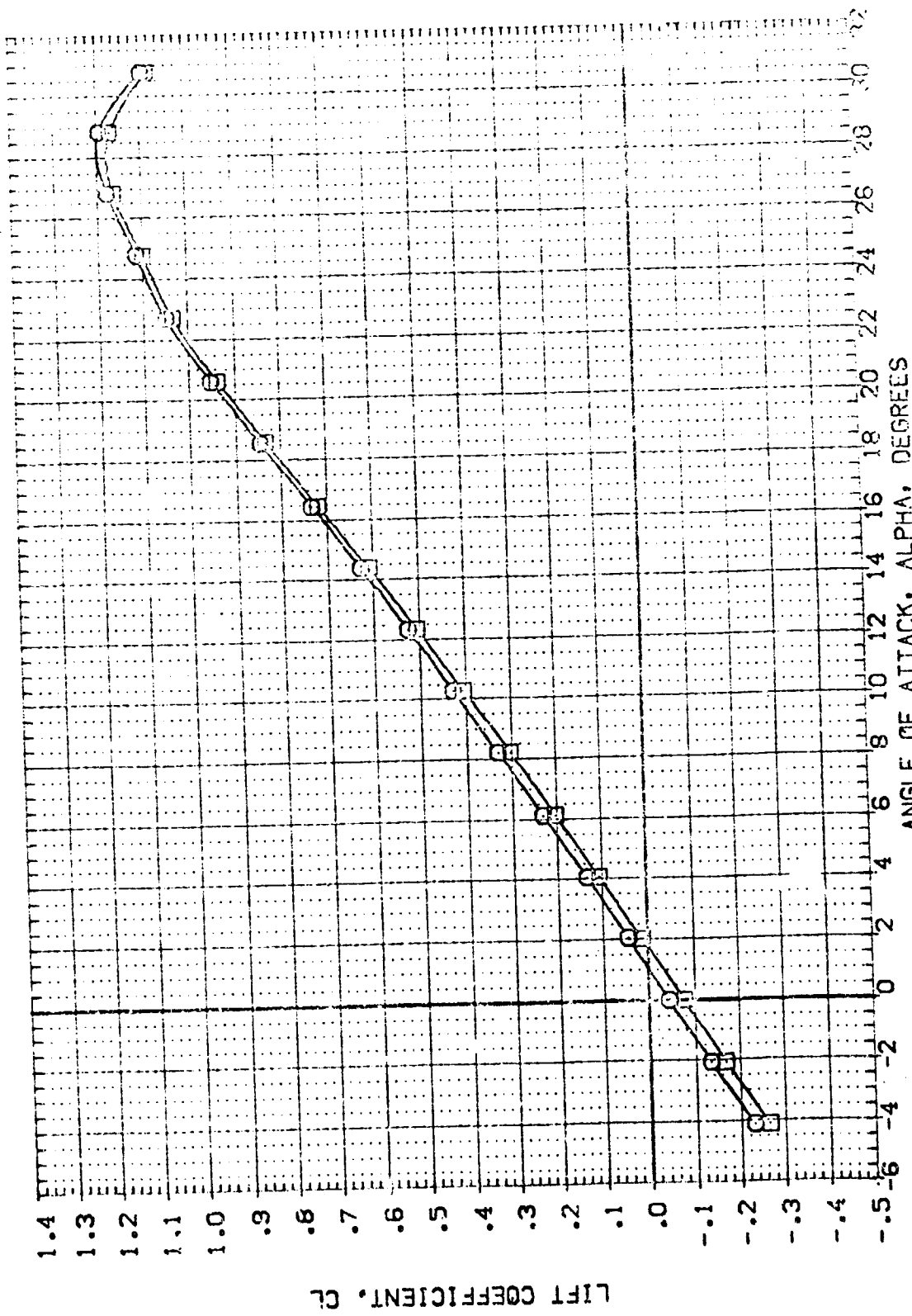


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

DATA SET SY-200. CONFIGURATION DESCRIPTION
 (ED-191) 0A21B B1SC7 MAFS V112EZ3V7RS
 (ED-231) 0A21B B1SC7 MAFS V107EZ3V7RS

ELEVON AILRON SPOBRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9358 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0105

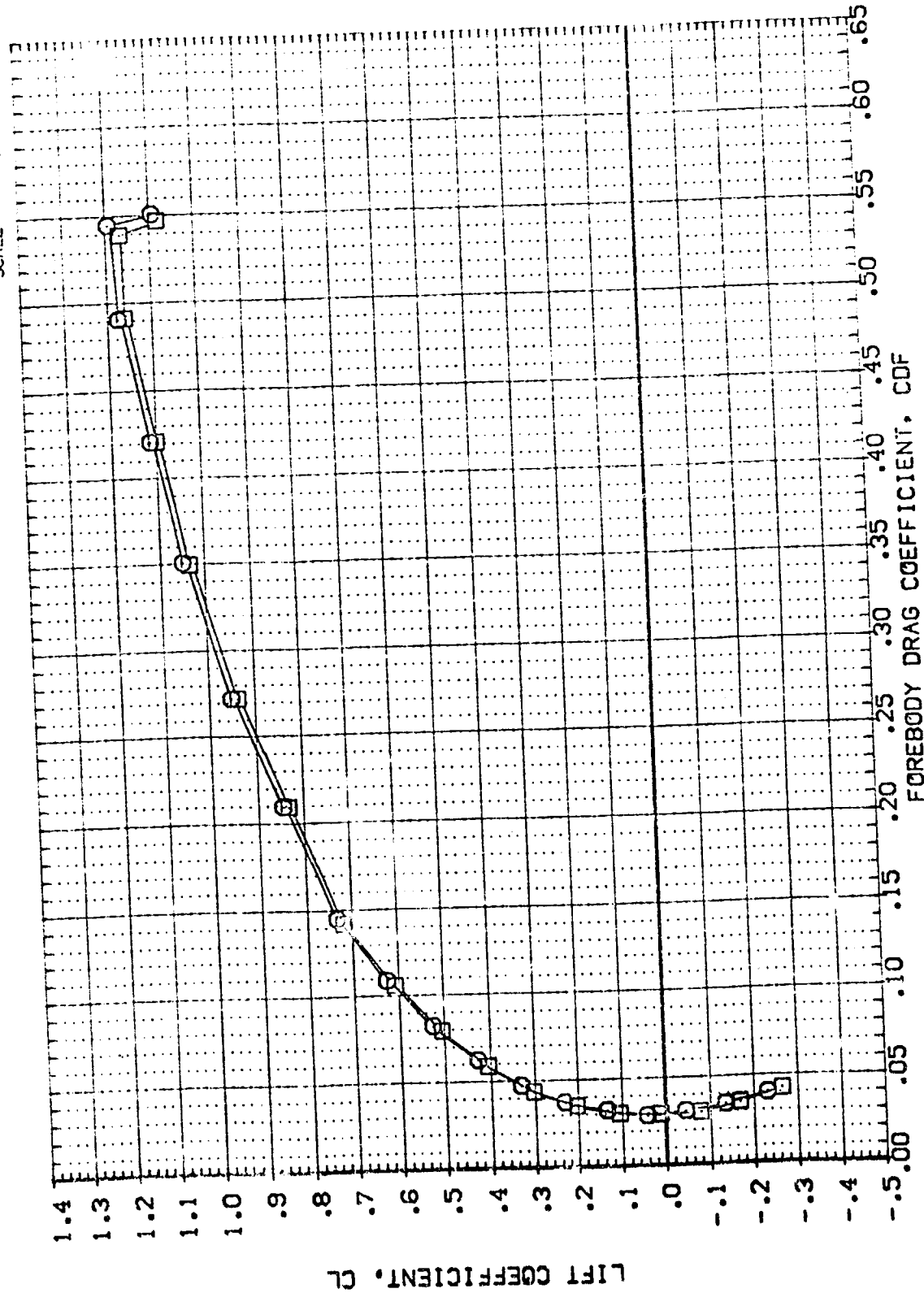


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

DATA SET SYMBOL: 8
 (EDP191)
 (EDP231)

CONFIGURATION DESCRIPTION
 0A218 B15C7 MAFS V112E23V7R6
 0A218 B10C7 MAFS V107E23V7R6

REFERENCE INFORMATION
 SREF 4.4119
 LREF 19.2298
 BREF 37.5338
 XMRP 43.5974
 YMRP .0000
 ZMRP 16.2000
 SCALE .0405

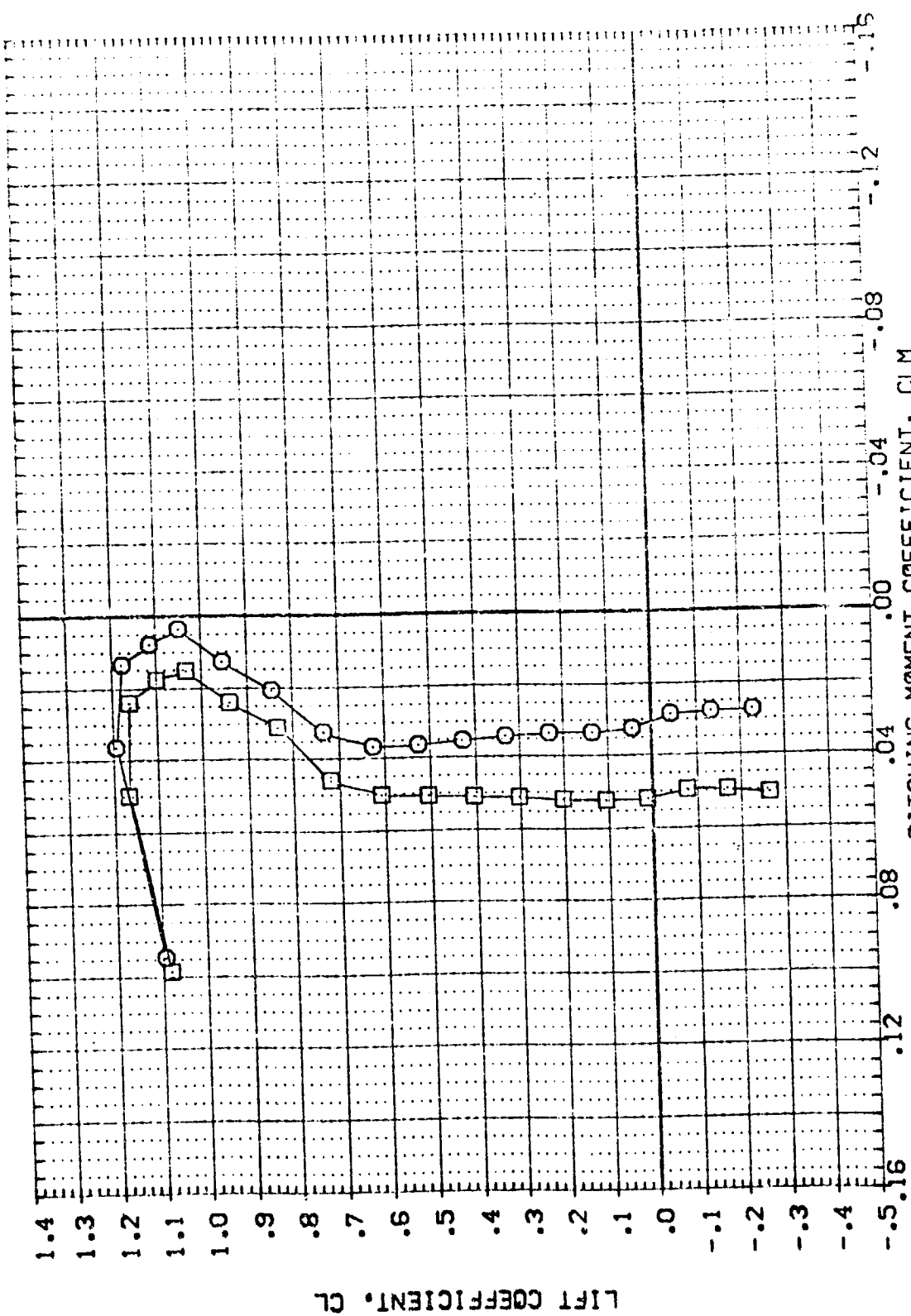


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDRK | BDFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|---------|--------|---------|-----------------------|
| (EDP131) | CA218 819C7 M4F5 V11ZE23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50.FT. |
| (EDP231) | CA218 819C7 M4F5 V10TE23V7R6 | .000 | .000 | 25.000 | -18.000 | LRFF 19.2200 INCHES |
| | | | | | | BRFF 37.6203 INCHES |
| | | | | | | BMFF 43.75074 INCHES |
| | | | | | | YMGF 16.2000 INCHES |
| | | | | | | ZMGF 16.2000 INCHES |
| | | | | | | SCALE .0105 |

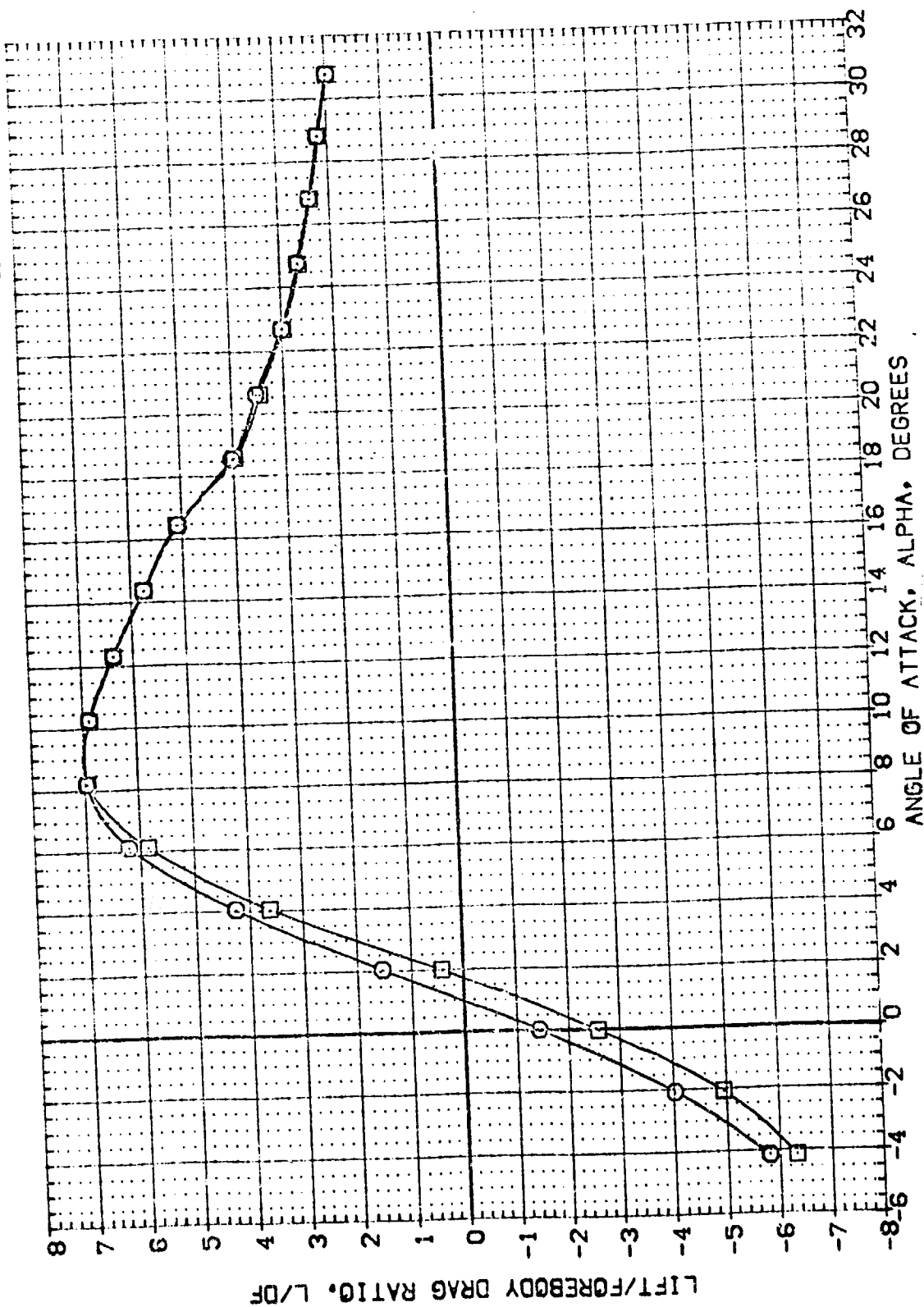


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP191) 0A218 B1SC7 MAFS V112E23V7R6
 (EDP231) 0A218 B1SC7 MAFS V107E23V7R6

ELEVATION .000
 ATURON .000
 SPOBRK 25.000
 BOFLAP -18.000

REFERENCE INFORMATION
 SREF 4.419 52. FT.
 LREF 19.239 INCHES
 BREF 37.959 INCHES
 XREF 43.574 INCHES
 YREF 0.000 INCHES
 ZREF 16.200 INCHES
 SCALE .005

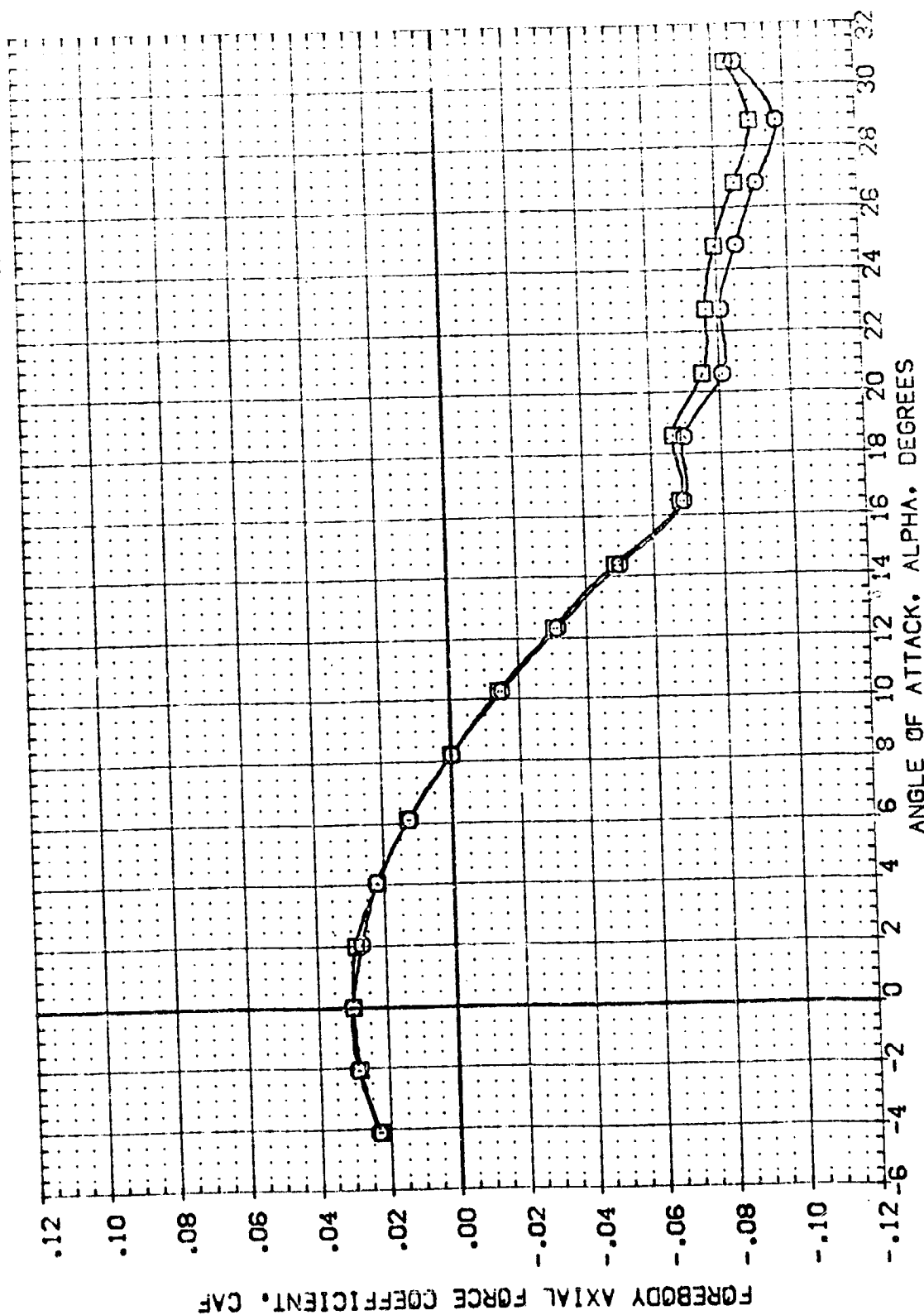


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

DATA SET S: 130L
 (EDP191)
 (EDP231)

CONFIGURATION DESCRIPTION
 0A218 B19C7 M4F5 V112E23V7R6
 0A218 B19C7 M4F5 V107E23V7R6

ELEVON AILRON SPOBRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2289 INCHES
 BREF 37.5359 INCHES
 XREF 43.1974 INCHES
 YREF 16.0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

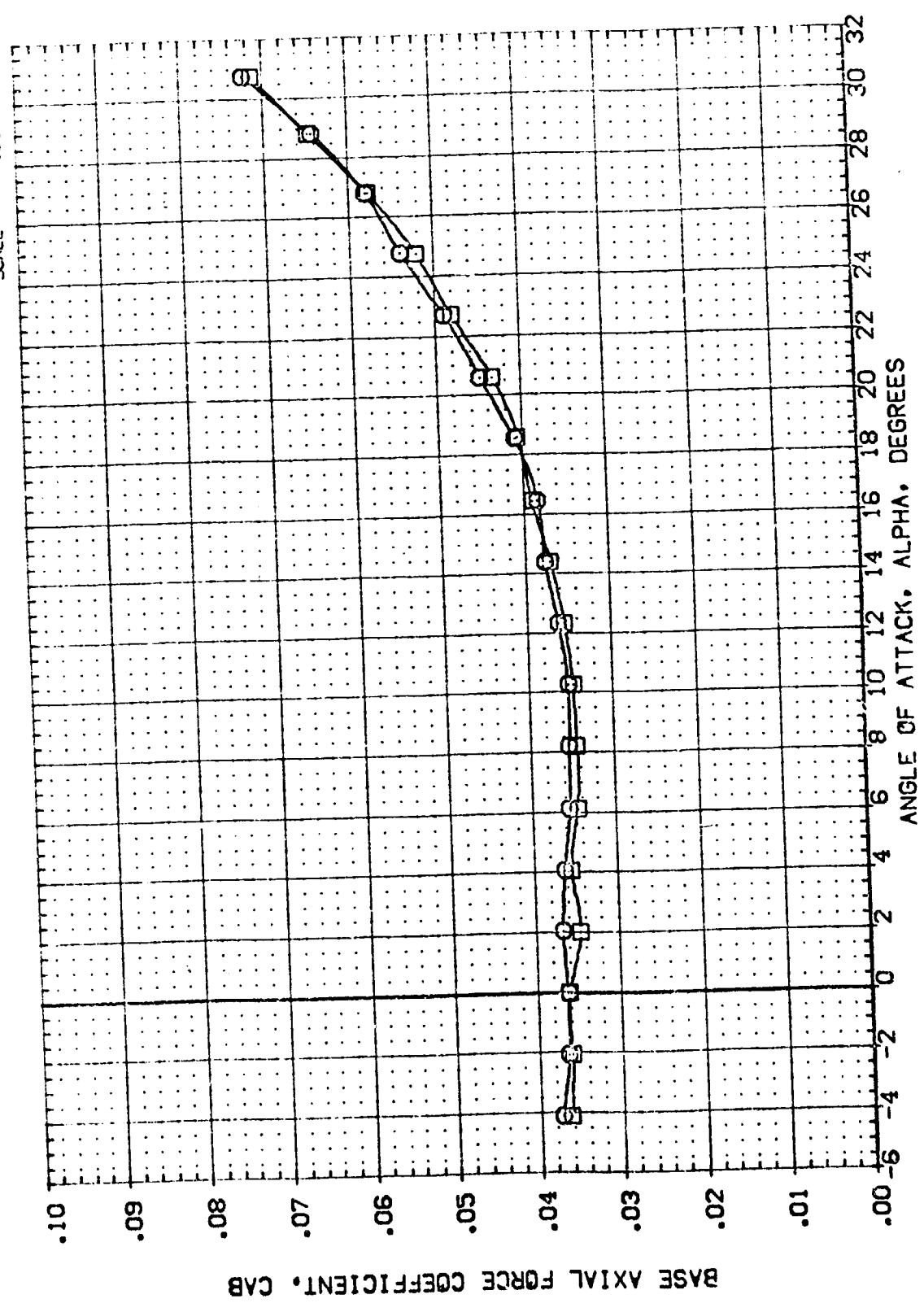


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

DATA SET SYMBOL
(EDP191)
(EDP231)

CONFIGURATION DESCRIPTION
0A218 819C7 MAFS V11Z23V7R6
0A318 819C7 MAFS V107E23V7R6

ELEVON
.000
.000

AILERON
.000
.000

SPDBRK
25.000
25.000

BOFLAP
-18.000
-18.000

REFERENCE INFORMATION
SREF 4.4119 SQ.FT.
LREF 19.2269 INCHES
SREF 37.5559 INCHES
XREF 43.5574 INCHES
YREF 16.0000 INCHES
ZREF 16.2000 INCHES
SCALE .0405

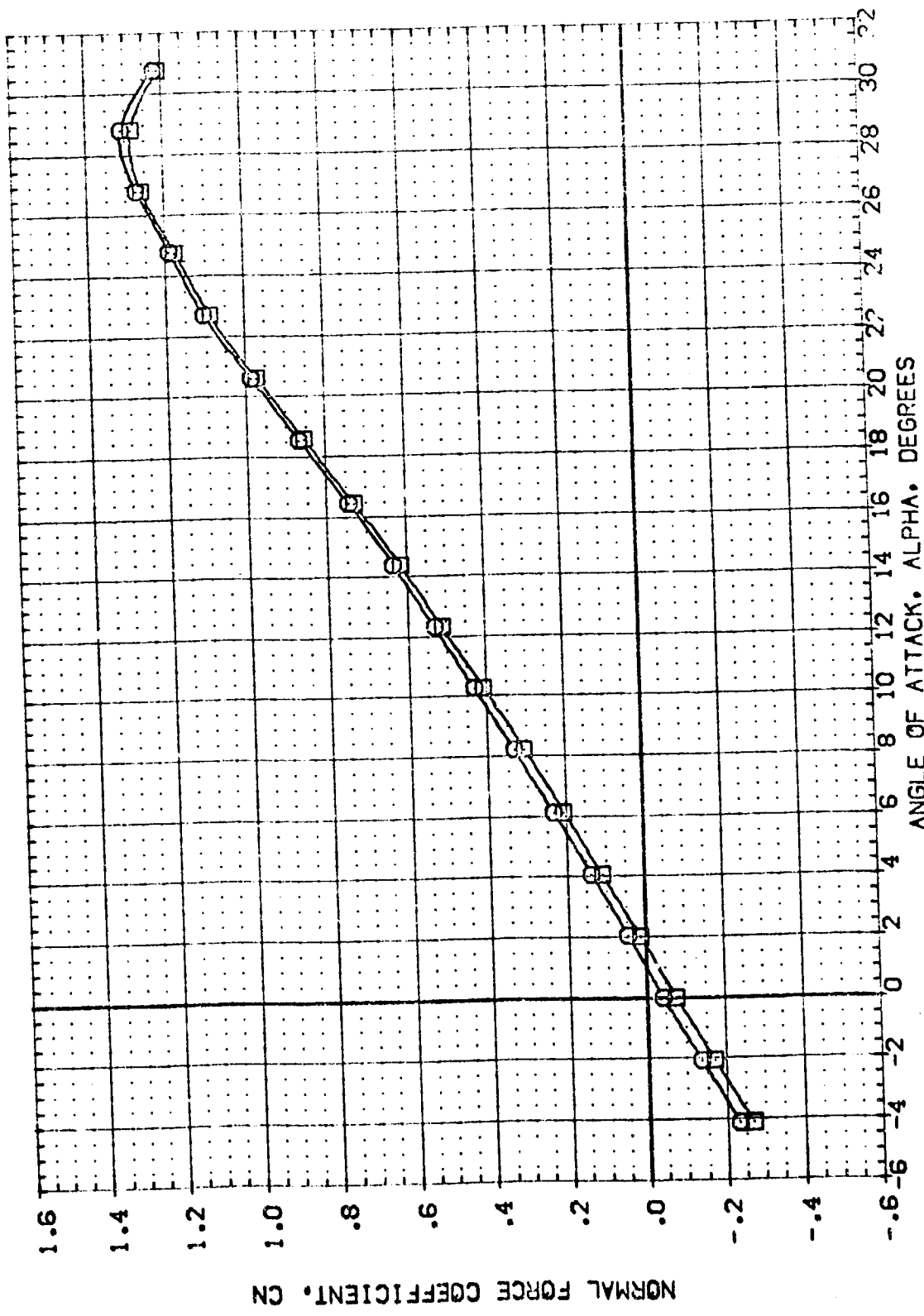


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {EDP191} 0A218 81SC7 M4F5 V112E23V7R5
 {EDP231} 0A218 81SC7 M4F5 V107E23V7R6

ELEVON AILRON STUGRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT. INCHES
 LREF 19.2293 INCHES
 BRGF 37.5539 INCHES
 XMRP 43.0074 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

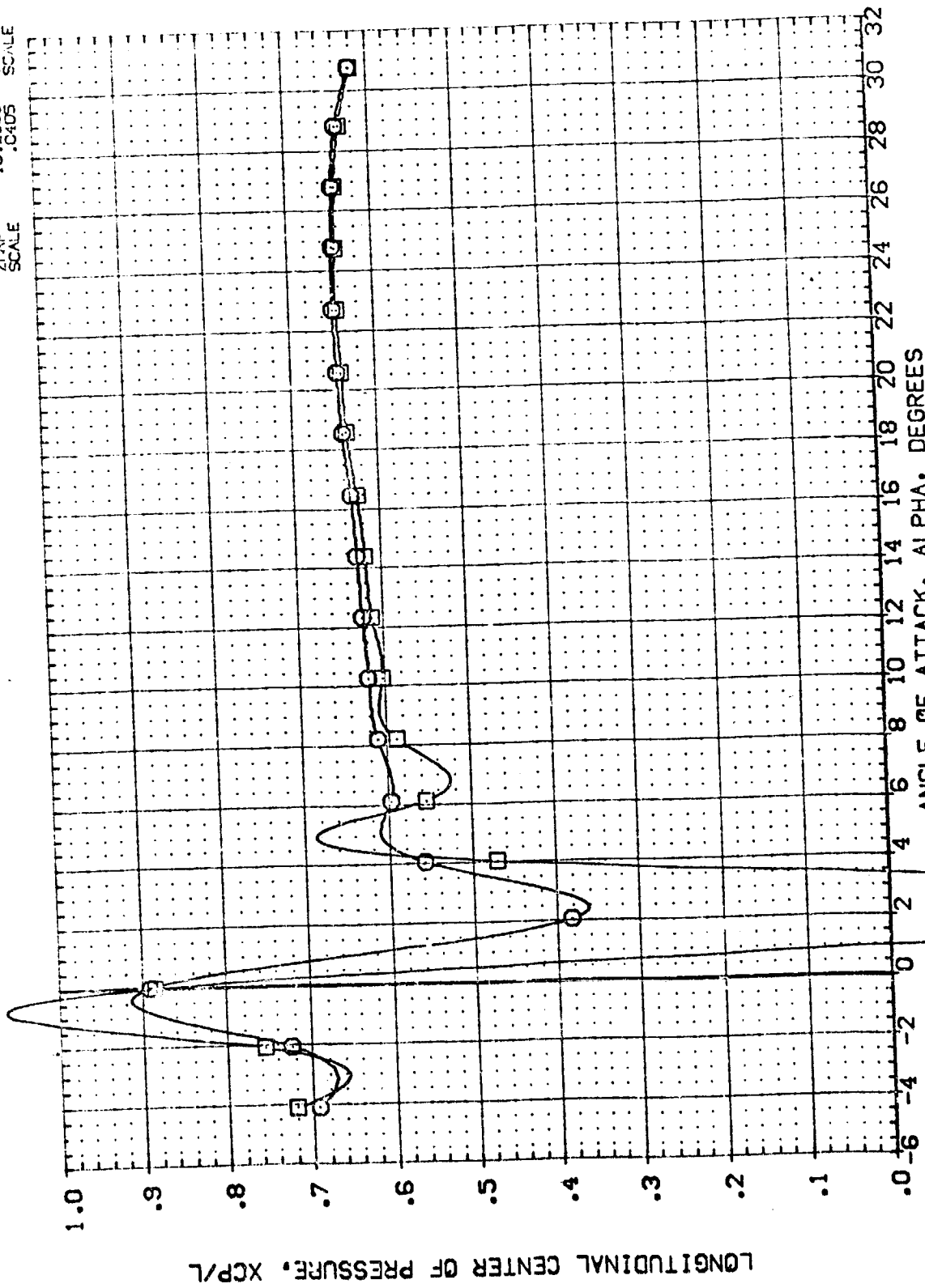


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

| | | | | | |
|-----------------|---|---------------------------|------|-----------------------|----------------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (EDP191) | 8 | 8AZ18 B1SC7 | MAF5 | SREF | 4.4119 SQ. FT. |
| (EDP231) | 8 | 8AZ18 B1SC7 | MAF5 | LREF | 19.2233 INCHES |
| | | | | BREF | 37.9559 INCHES |
| | | | | XMRP | 43.9374 INCHES |
| | | | | YMRP | .0000 INCHES |
| | | | | ZMRP | 16.3000 INCHES |
| | | | | SCALE | .0405 |

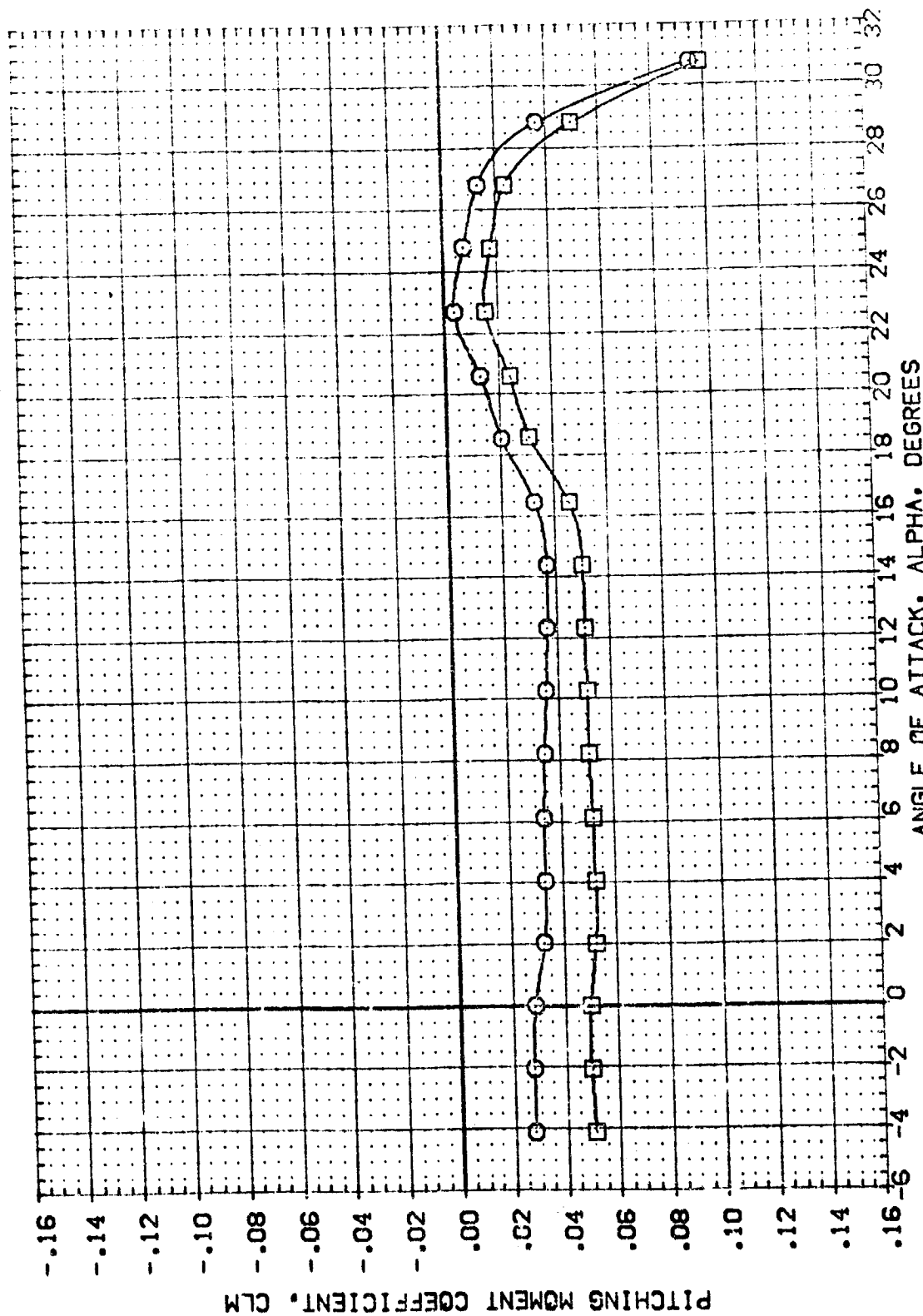


FIGURE 82 CONFIG 139B EFFECT OF WING MODIFICATION

(A)MACH = .16

DATA SET SYMBOL: 8A21B B19C7 M4F5 V107E23V7R3
 (EDP2311) (EDP235)

ELEVON: .000 .000
 AILRON: .000 .000
 SPOBRK: 25.000 25.000
 BOFLAP: -18.000 -18.000

REFERENCE INFORMATION
 SQ.FT.: 4.4119
 INCHES: 19.2203
 INCHES: 37.0000
 INCHES: 43.0000
 INCHES: 16.0000
 INCHES: 16.0000
 SCALE: .0005

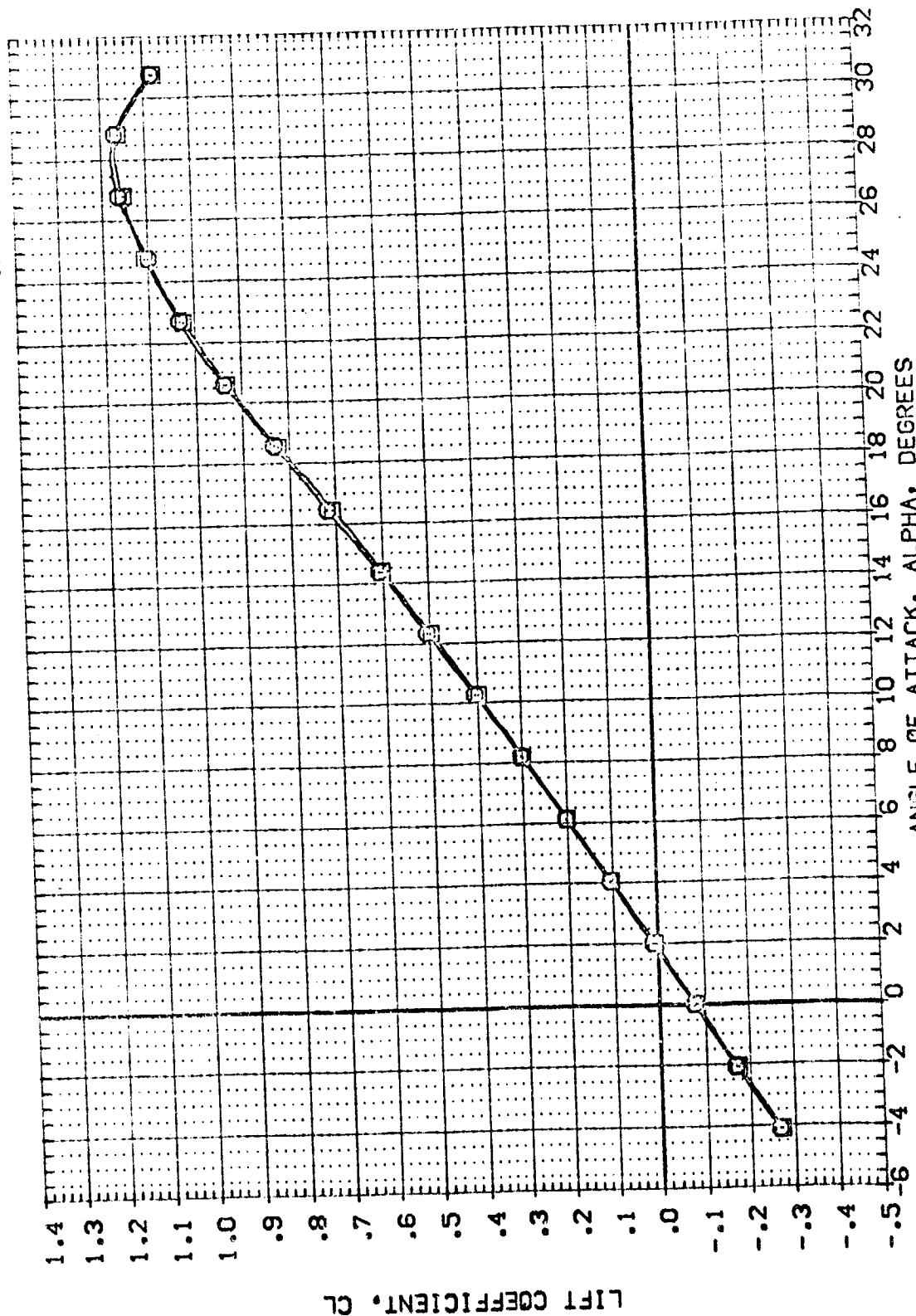


FIGURE 83 CONFIG 139B EFFECT OF FUSELAGE NOSE CAMBER

(A)MACH = .16

DATA SET SYMBOL: (EDP231) (EDP255)

ELEVON: .000
AILRON: .000
SPDRK: 25.000
BOFLAP: -18.000

CONFIGURATION DESCRIPTION: 0A218 B19C7 MAF5 V107E23V7R6
0A218 B21C7 MAF5 V107E23V7R6

REFERENCE INFORMATION: 4.4119 SQ. FT.
19.2259 INCHES
37.9339 INCHES
43.3974 INCHES
0.000 INCHES
18.2000 INCHES
SCALE: .0405

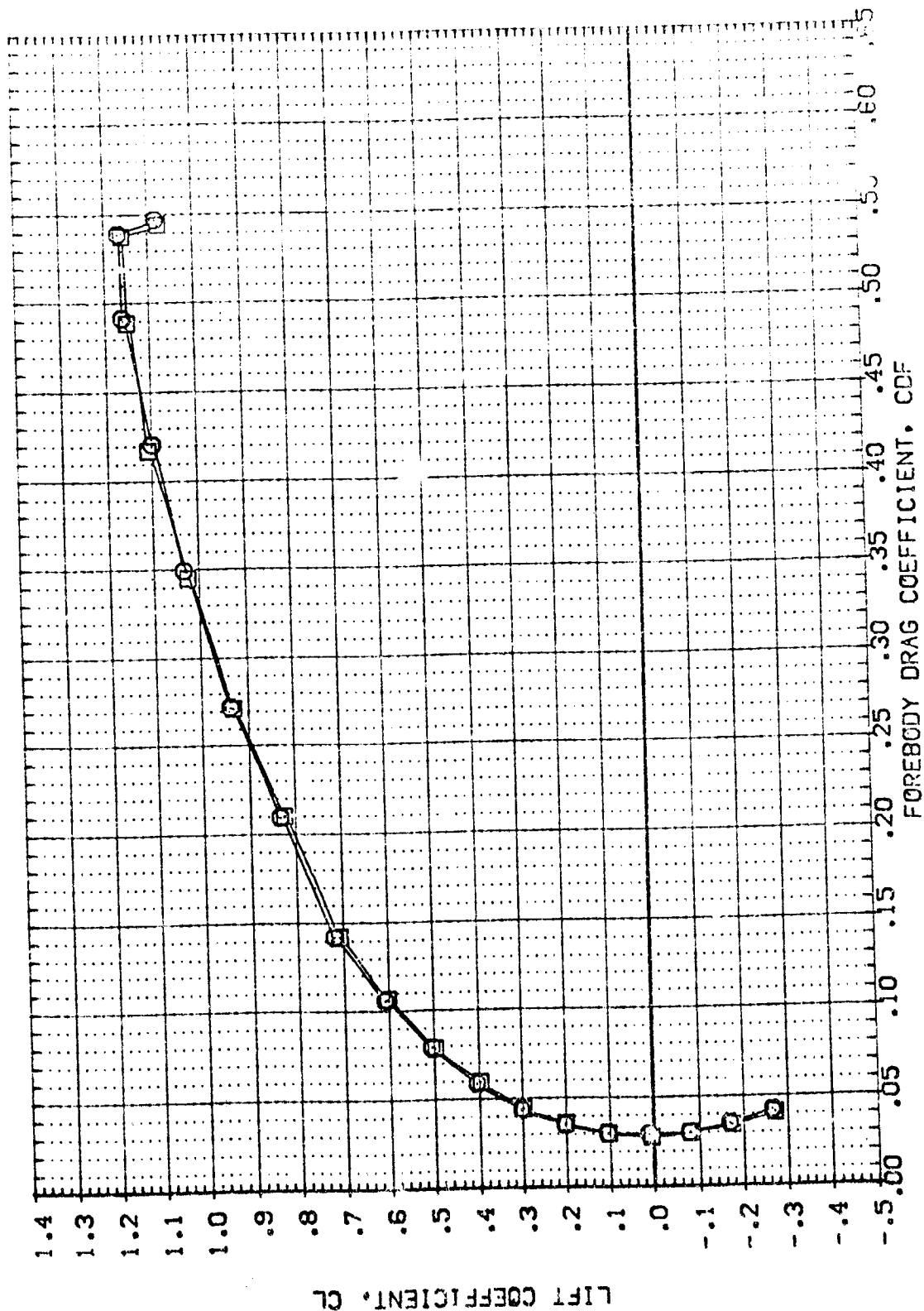


FIGURE 83 CONFIG 139B EFFECT OF FUSELAGE NOSE CAMBER

(A)MACH = .16

DATA SET SYMBOL
(E22231)
(ED255)

CONFIGURATION DESCRIPTION
CA21B B1SC7 MAFS V107E23V7R6
CA21B B21C7 MAFS V107E23V7R6

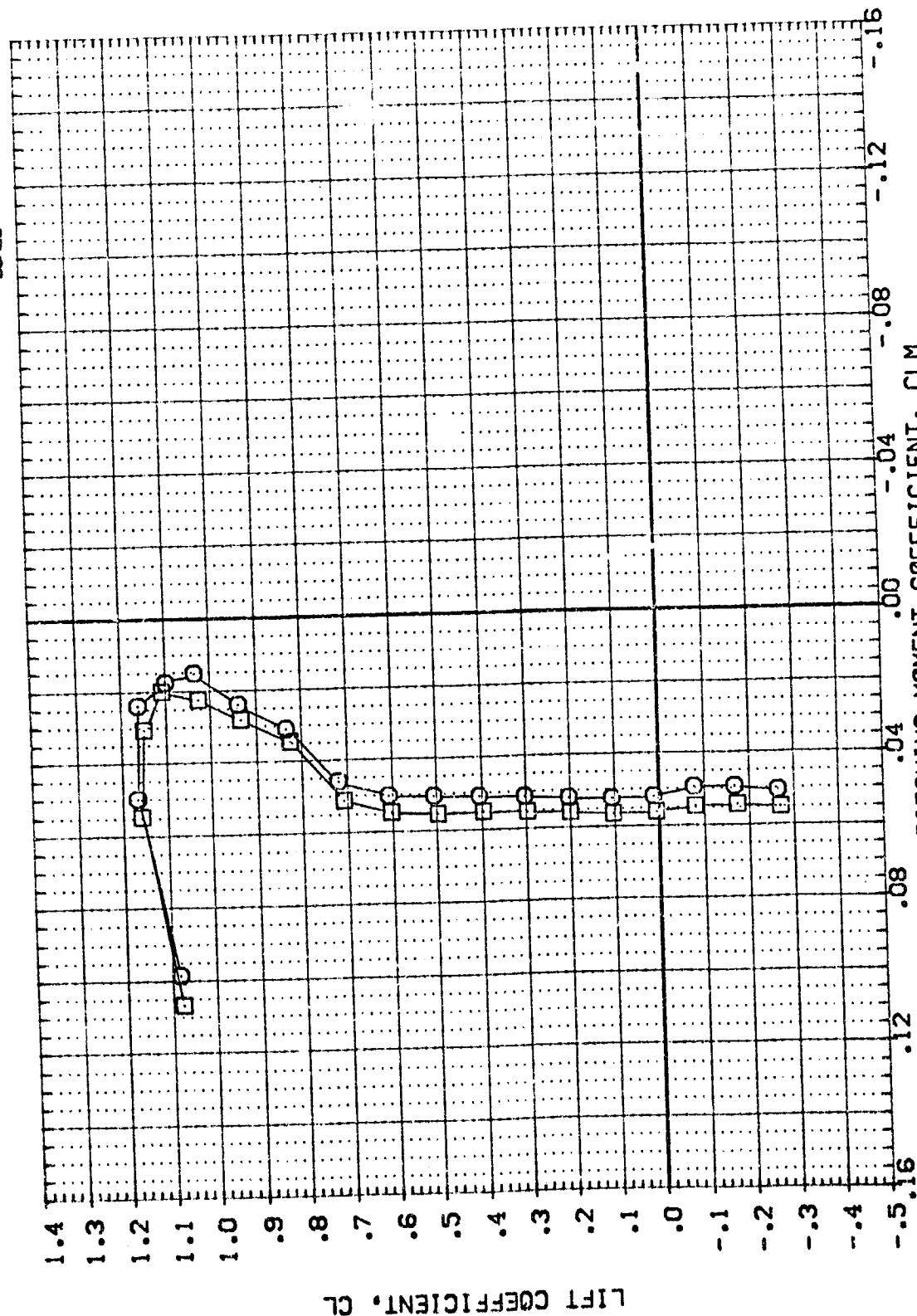
ELEVON
.000
.000

AILRON
.000
.000

SPDRK
25.000
25.000

NOFLAP
-18.000
-18.000

REFERENCE INFORMATION
SREF 4.4119 SQ.FT.
LREF 19.2289 INCHES
BREF 37.9359 INCHES
XMRP 43.5974 INCHES
YMRP .0000 INCHES
ZMRP 16.2000 INCHES
SCALE .0405



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FIGURE 83 CONFIG 139B EFFECT OF FUSELAGE NOSE CAMBER

(A)MACH = .16

| | | | |
|--------|--------|--------|---------|
| ELEVON | AIRLON | SPDRX | BOFLAP |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |

| REFERENCE INFORMATION | |
|-----------------------|---------|
| SREF | 4.4119 |
| LREF | 19.2289 |
| SREF | 37.9289 |
| XMPR | 43.5974 |
| YMPR | 10.0000 |
| ZMPR | 16.0000 |
| SCALE | .0005 |

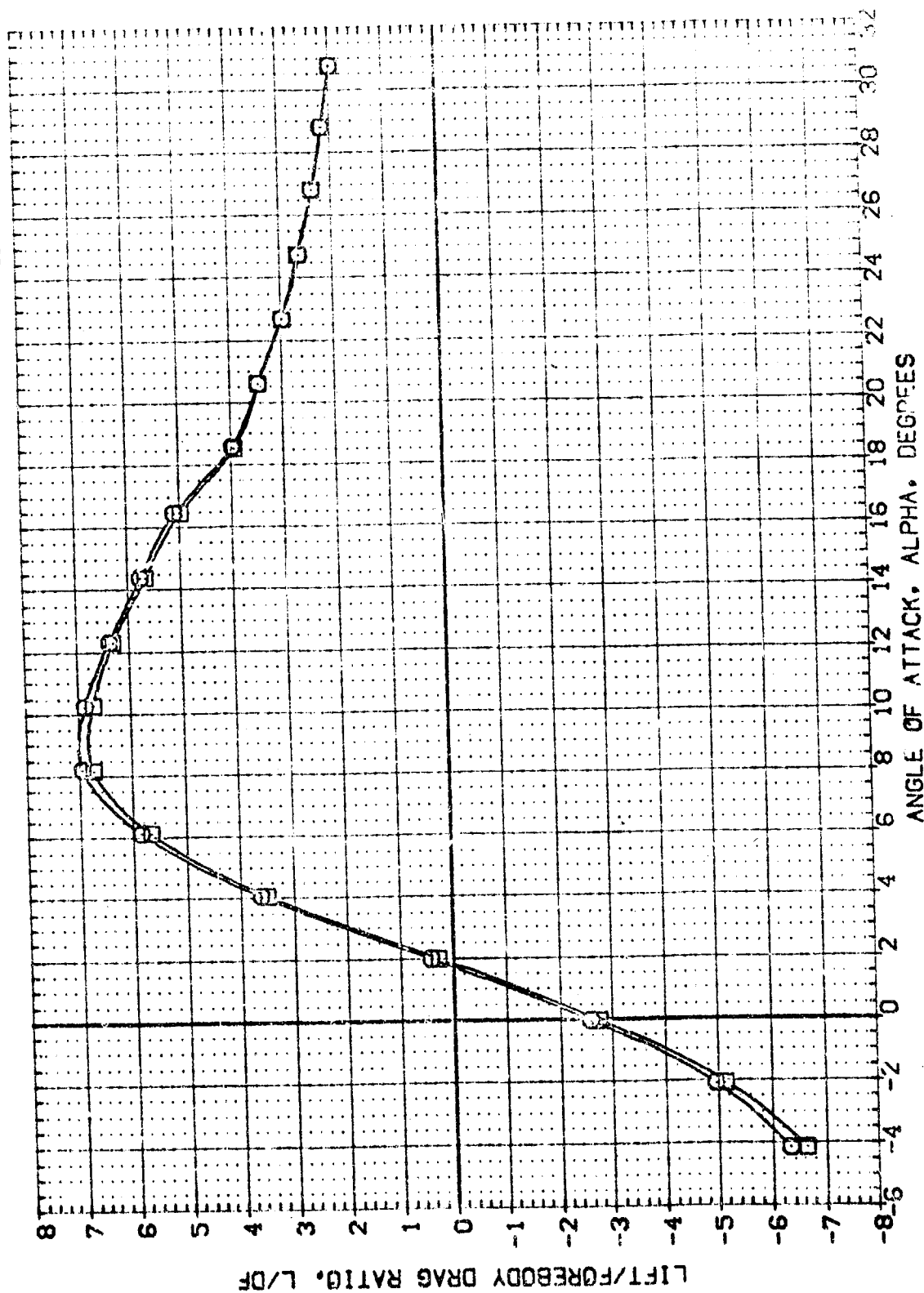


FIGURE 83 CONFIG 133B EFFECT OF FUSELAGE NOSE CAMBER

$$C_A MACH = .16$$

DATA SET SYMBOL: 0A218 819C7 M455 V107E23V7R6
 (EDP231) 0A218 821C7 M455 V107E23V7R6

ELEVON: .000
 AILRON: .000
 SPOBRK: 25.000
 BOTLAP: -18.000

REFERENCE INFORMATION:
 SREF: 4.4119 S2.FT.
 LREF: 19.2299 INCHES
 XREF: 37.9359 INCHES
 YREF: 43.5374 INCHES
 ZREF: .0000 INCHES
 ZMRP: 16.2000 INCHES
 SCALE: .0405

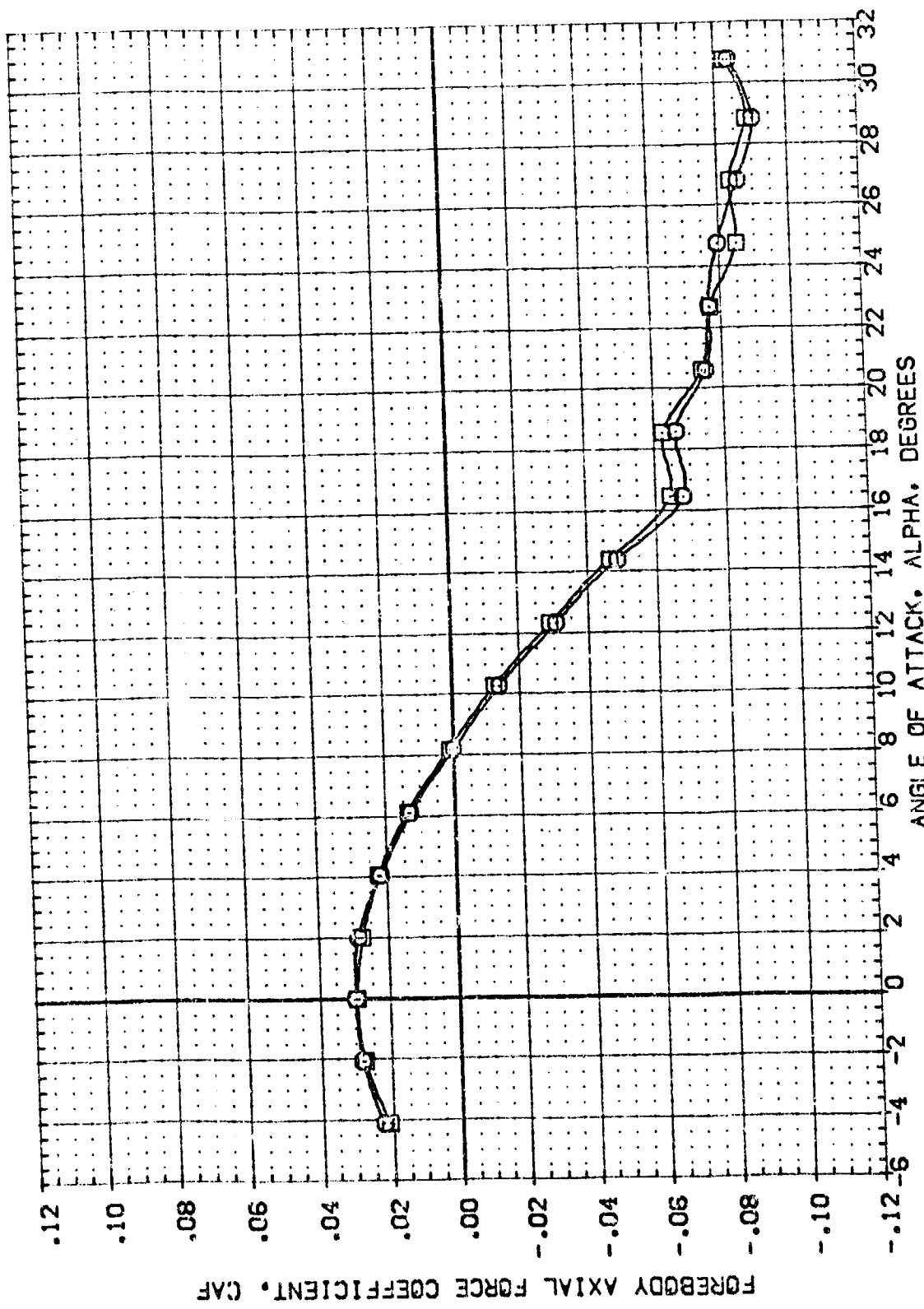


FIGURE 83 CONFIG 139B EFFECT OF FUSELAGE NOSE CAMBER

(MACH) = .16

DATA SET SYMBOL: (EDP231) □ (EDP256)

CONFIGURATION DESCRIPTION: DA21B 819C7 M4FS V107E23V7R6 DA21B 821C7 M4FS V107E23V7R6

ELEVON: .000
AILRON: .000
SPDRBK: 25.000
BDFLAP: -18.000

REFERENCE INFORMATION:
SREF: 4.1119 SQ.FT.
LREF: 19.7293 INCHES
BREF: 17.9839 INCHES
XREF: 43.5974 INCHES
YREF: 0.000 INCHES
ZREF: 16.000 INCHES
SCALE: .0103

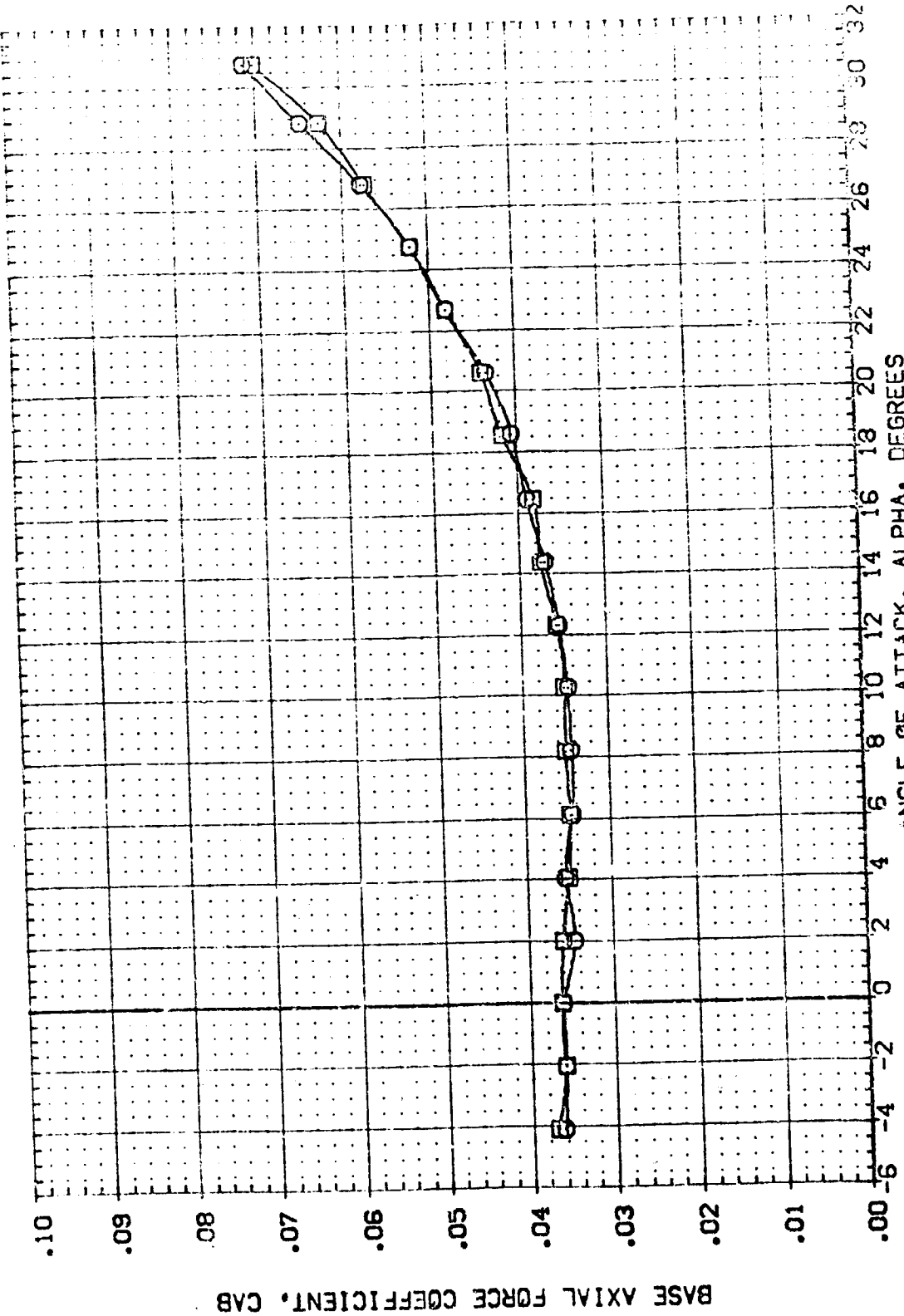


FIGURE 83 CONFIG 139B EFFECT OF FUSELAGE NOSE CAMBER

CAMMACH = .16

DATA SET SYMBOL
(EDP231)
(EDP235)

CONFIGURATION DESCRIPTION
0A21B B19C7 M4FS V107E23V7R6
0A21B B21C7 M4FS V107E23V7R6

ELEVON
.000
.000

AILRON
.000
.000

SPOBRK
25.000
25.000

BOFLAP
-18.000
-18.000

REFERENCE INFORMATION
SREF 1.4119 SQ.FT.
LREF 19.2239 INCHES
BREF 37.6759 INCHES
XREF 43.5974 INCHES
YREF 16.0000 INCHES
ZREF 16.2000 INCHES
SCALE .0405

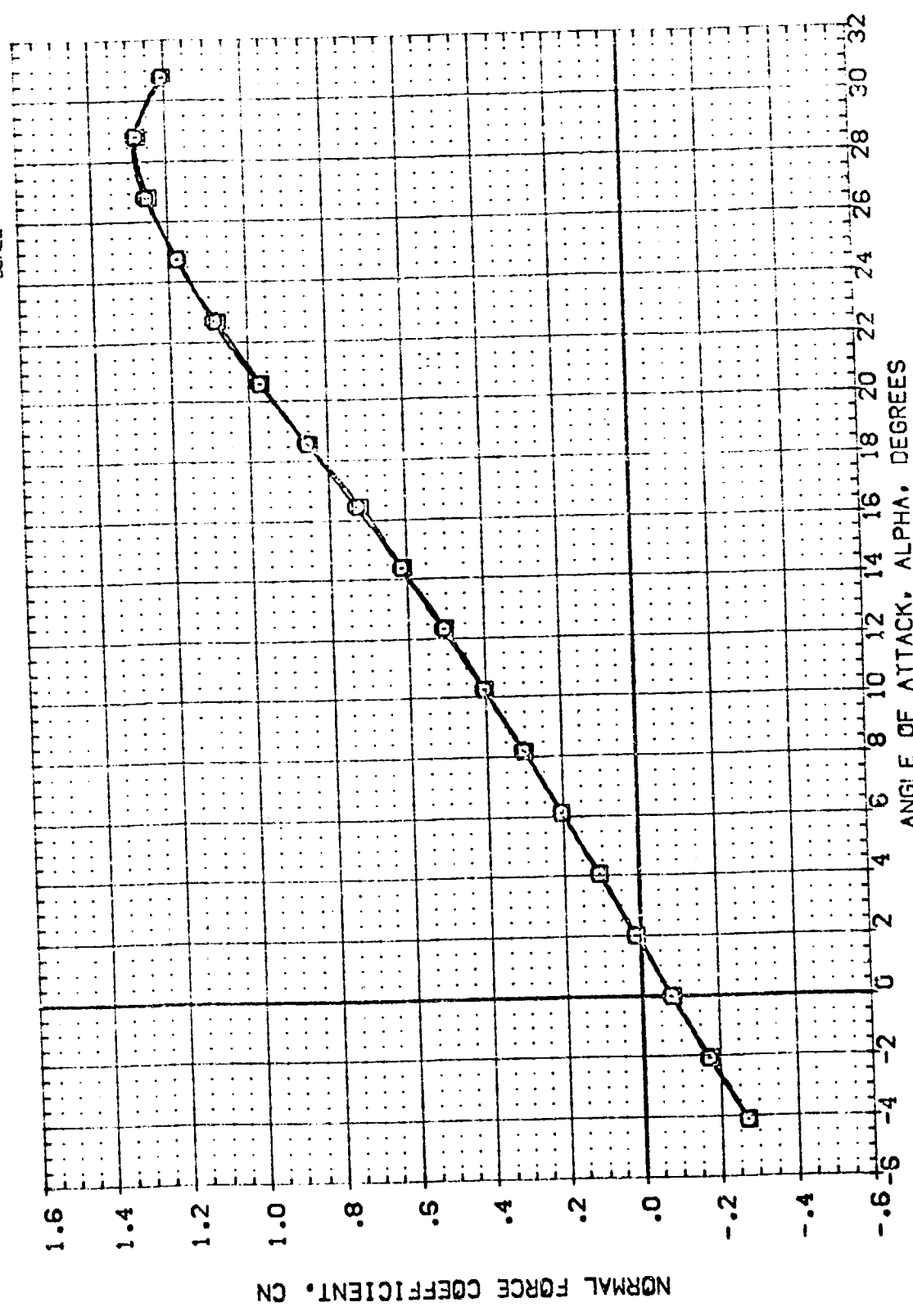


FIGURE 83 CONFIG 139B EFFECT OF FUSELAGE NOSE CAMBER

(A)MACH = .16

| | | | | | |
|-----------------|-------|---------------------------|------|-----------------------|---------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (EDP231) | 0A21B | 21C27 | M4F5 | V107E23V7R6 | 4.4119 |
| (EDP232) | 0A21B | B21E7 | M4F5 | V107E23V7R6 | 19.2293 |
| | | | | | 37.5333 |
| | | | | | 43.5374 |
| | | | | | 1.0000 |
| | | | | | 16.2000 |
| | | | | | 0.105 |
| | | | | | SCALE |

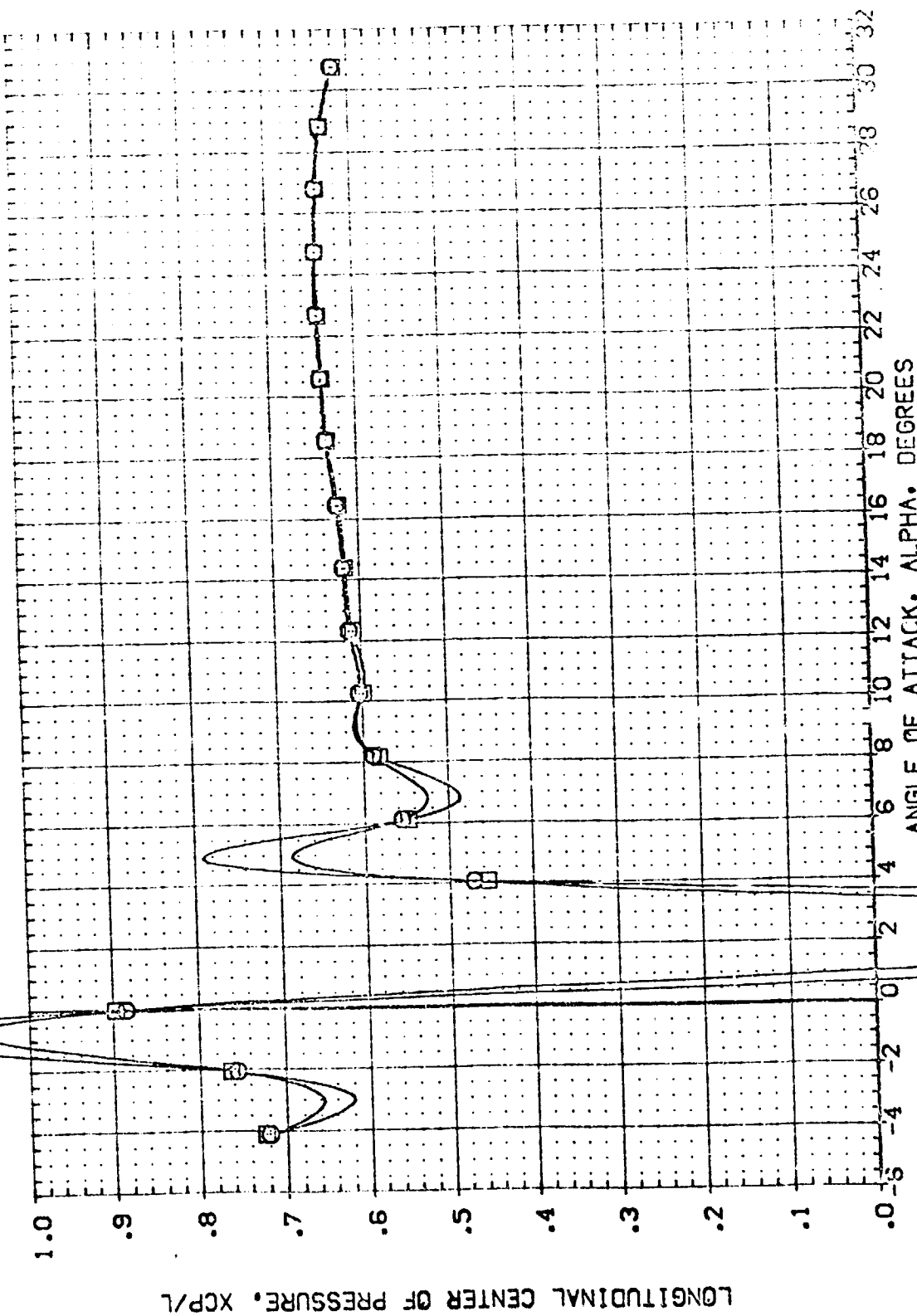


FIGURE 83 CONFIG 139B EFFECT OF FUSELAGE NOSE CAMBER
 CAJMACH = .16



| | | | | | |
|-----------------|-------------|---------------------------|-------------|-----------------------|---------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (ED231) | 0A218 B1SC7 | M4FS | V107E23V7R6 | SREF | 4.4119 |
| (ED236) | 0A218 B21C7 | M4FS | V107E23V7R6 | LREF | 19.2269 |
| | | | | BREF | 37.9359 |
| | | | | XREF | 43.5374 |
| | | | | YREF | 0.0000 |
| | | | | ZREF | 0.0000 |
| | | | | SCALE | .0405 |

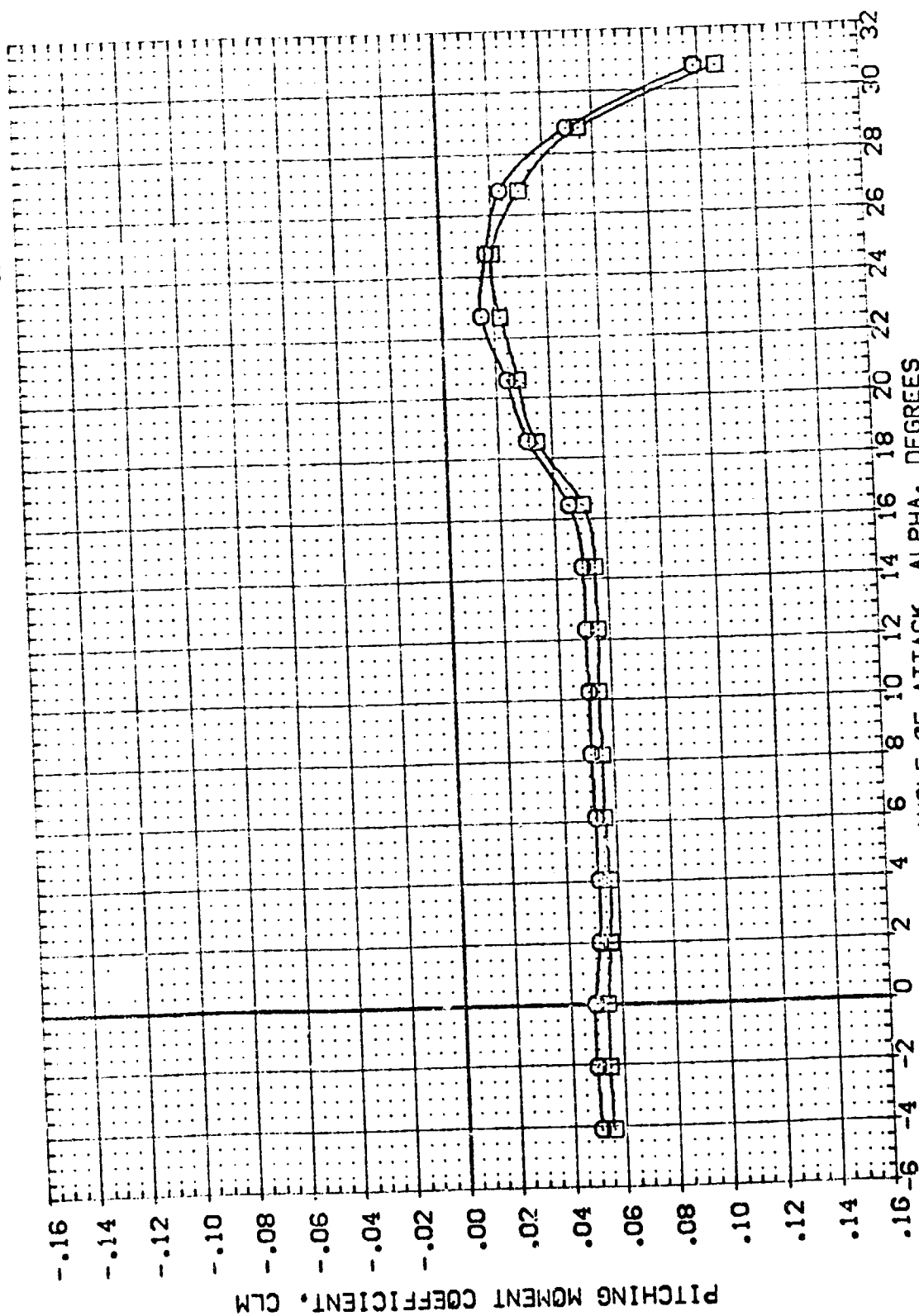


FIGURE 83 CONFIG 1398 EFFECT OF FUSELAGE NOSE CAMBER

(A)MACH = .16

| | | | | | | |
|-----------------|------------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | STICK | BUFLAP | REFERENCE INFORMATION |
| [EDP184] | 0A218 B19C7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | 4.4119 |
| [EDP197] | 0A218 B19C7 M4FS V107E23V7R6 | -5.000 | .000 | 25.000 | -16.000 | 19.2288 |
| [EDP198] | 0A218 B19C7 M4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -10.000 | 37.5358 |
| [EDP199] | 0A218 B19C7 M4FS V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | 43.5574 |

SREF 19.2288
 LREF 37.5358
 XREF 43.5574
 YREF 19.2288
 ZREF 37.5358
 SCALE 10.000

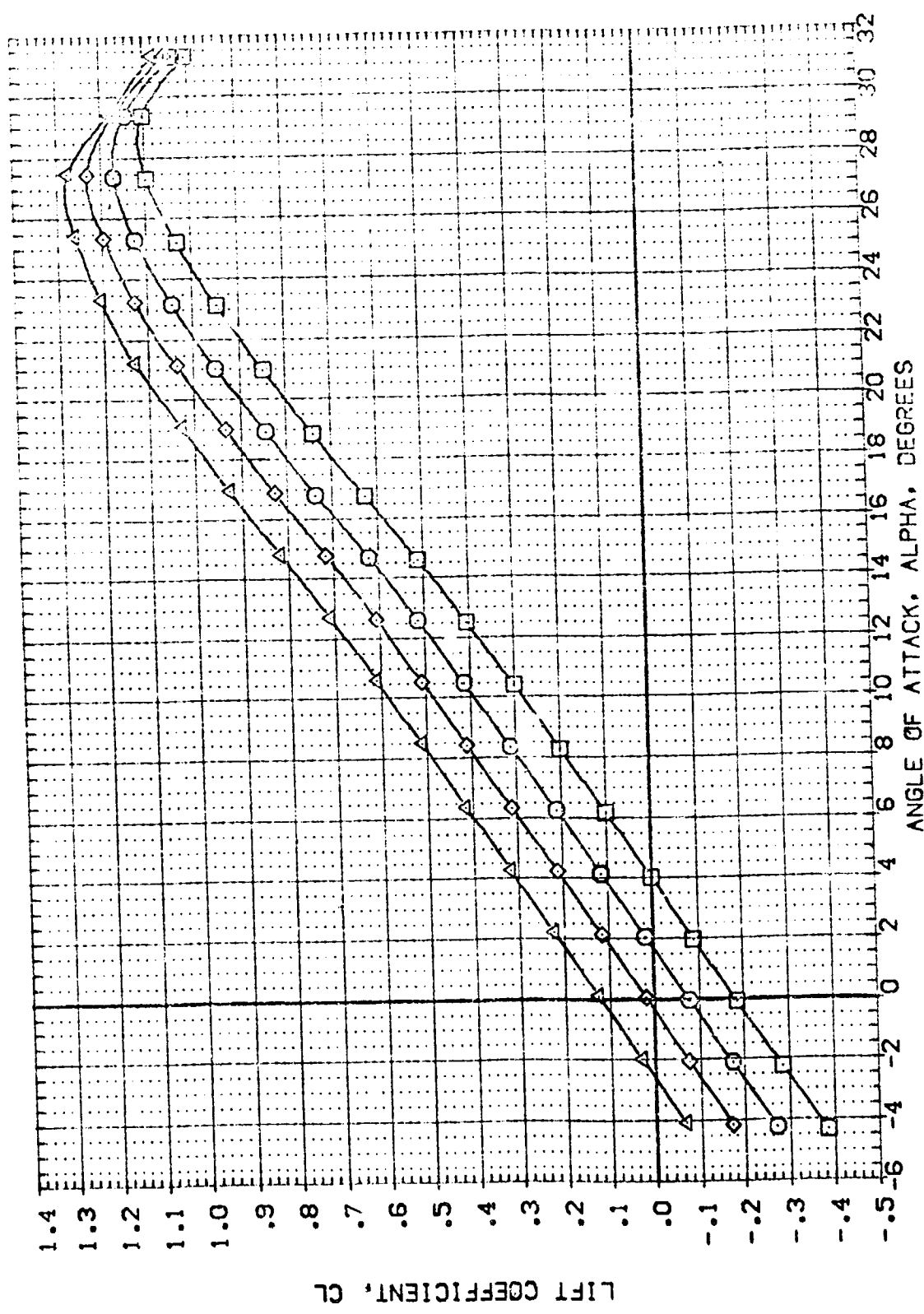


FIGURE 84 CONFIG 139B ELEVON EFFECTIVENESS

CA/MACH = .26



| DATA SET | SYMBOL | CONFIGURATION | DESCRIPTION | ELEVON | AILRON | SPDRBK | BOFLAP | REFERENCE INFORMATION |
|----------|--------|---------------|-------------|--------|--------|--------|---------|-----------------------|
| (EDP184) | □ | CA21B | B1SC7 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50.171 |
| (EDP187) | ○ | CA21B | B1SC7 | -5.000 | .000 | 25.000 | -18.000 | LREF 19.2239 10.000 |
| (EDP193) | △ | CA21B | B1SC7 | 5.000 | .000 | 25.000 | -18.000 | BREF 37.8339 10.000 |
| (EDP193) | ◇ | CA21B | B1SC7 | 10.000 | .000 | 25.000 | -18.000 | XMRP 43.5074 10.000 |
| | | | | | | | | YMRP 16.2000 10.000 |
| | | | | | | | | SCALE 0.005 |

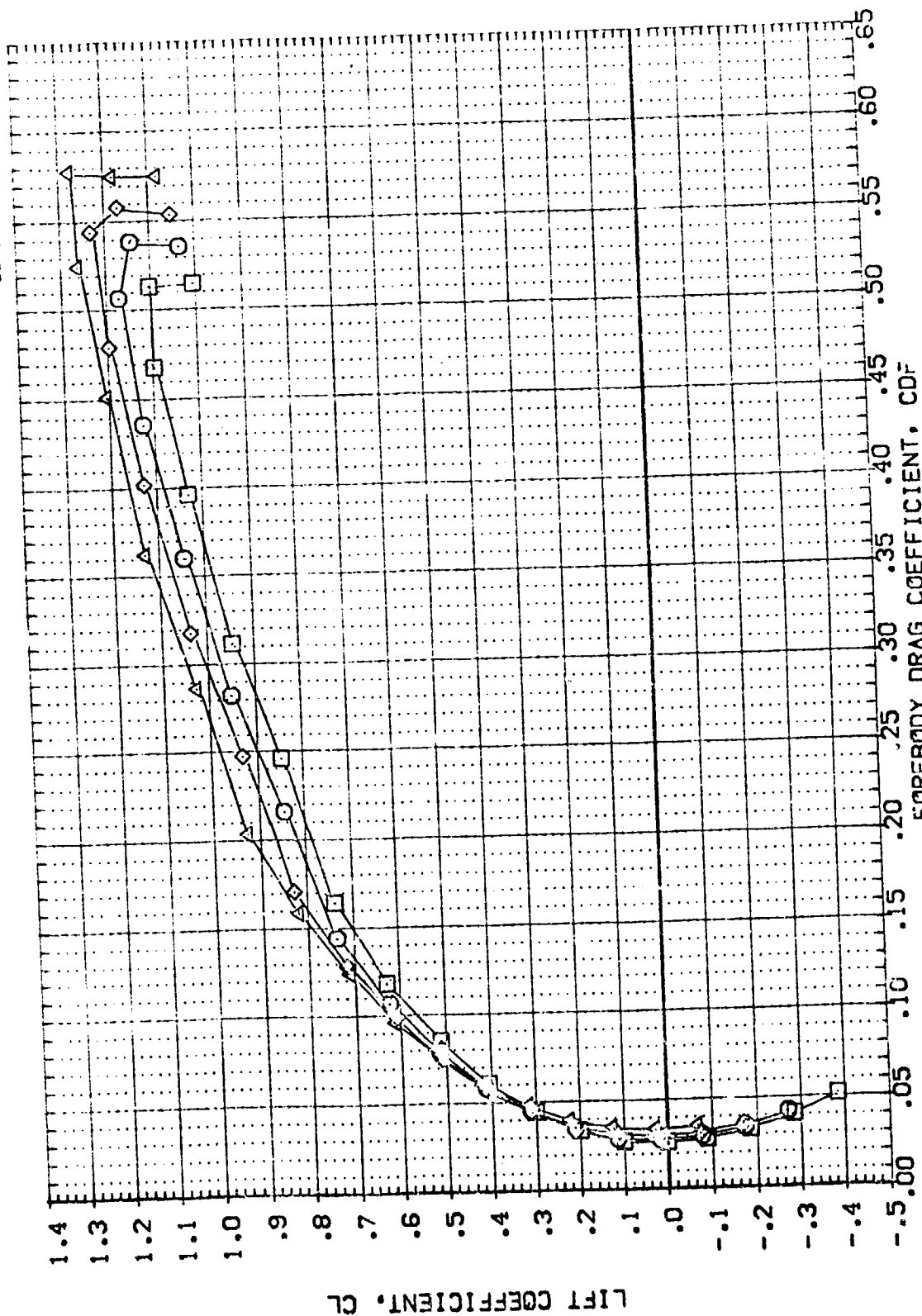


FIGURE 84 CONFIG 1398 ELEVON EFFECTIVENESS

(A)MACH = .26

| | | | | | | |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AIRLON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
| [EDP184] | 0A21B B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| [EDP187] | 0A21B B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.4259 INCHES |
| [EDP188] | 0A21B B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | BREF 37.5559 INCHES |
| [EDP189] | 0A21B B19C7 M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| | | | | | | YREF 15.2000 INCHES |
| | | | | | | ZREF .0405 INCHES |
| | | | | | | SCALE |

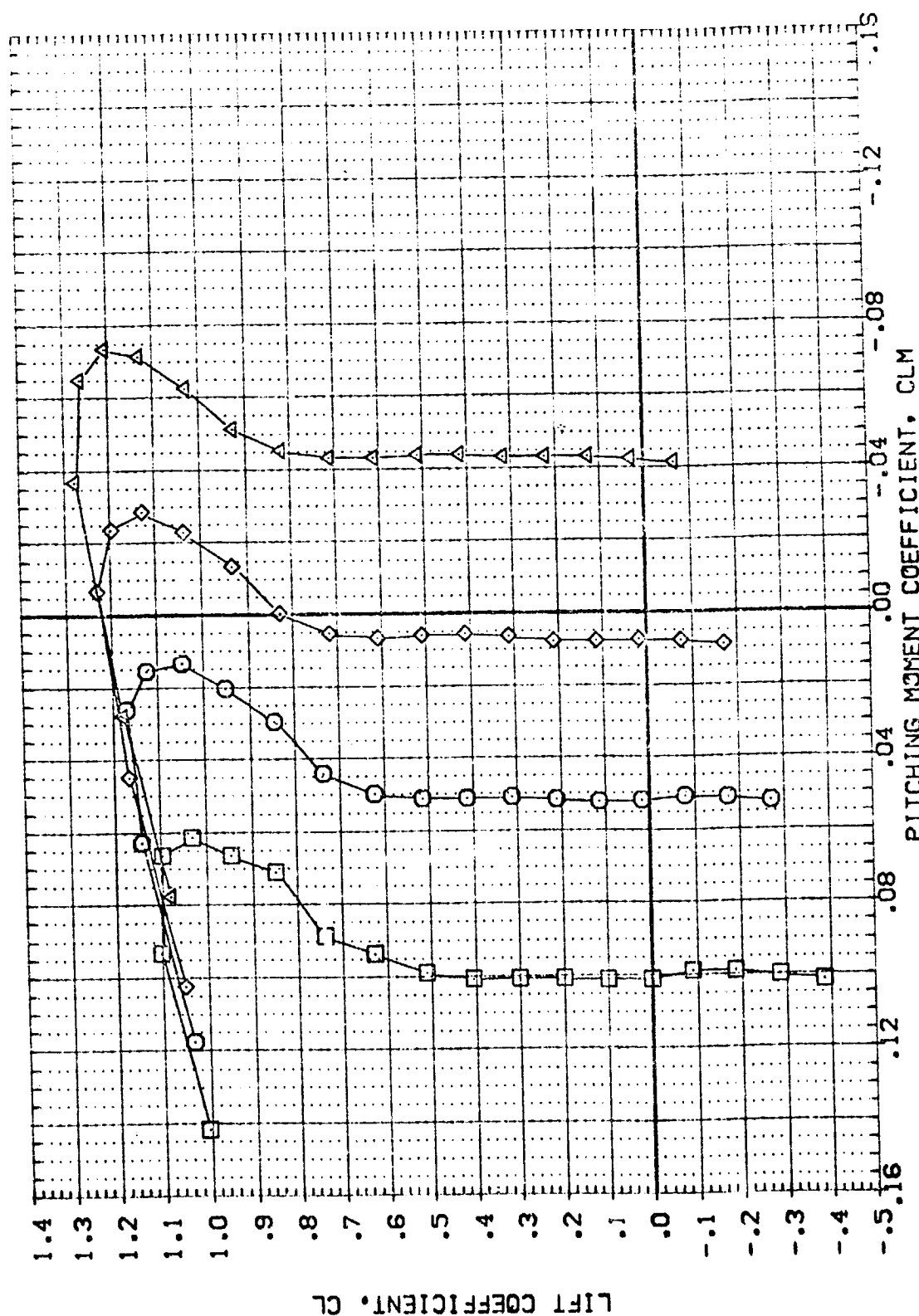


FIGURE 84 CONFIG 139B ELEVON EFFECTIVENESS

(A)MACH = .26

| | | | | | | |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILRON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
| (EDP124) | CA218 B19C7 M4F5 V107E23/7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP197) | CA218 B19C7 M4F5 V107E23/7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2239 INCHES |
| (EDP193) | CA218 B19C7 M4F5 V107E23/7R6 | -5.000 | .000 | 25.000 | -18.000 | CREF 37.3359 INCHES |
| (EDP199) | CA218 B19C7 M4F5 V107E23/7R6 | 10.000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

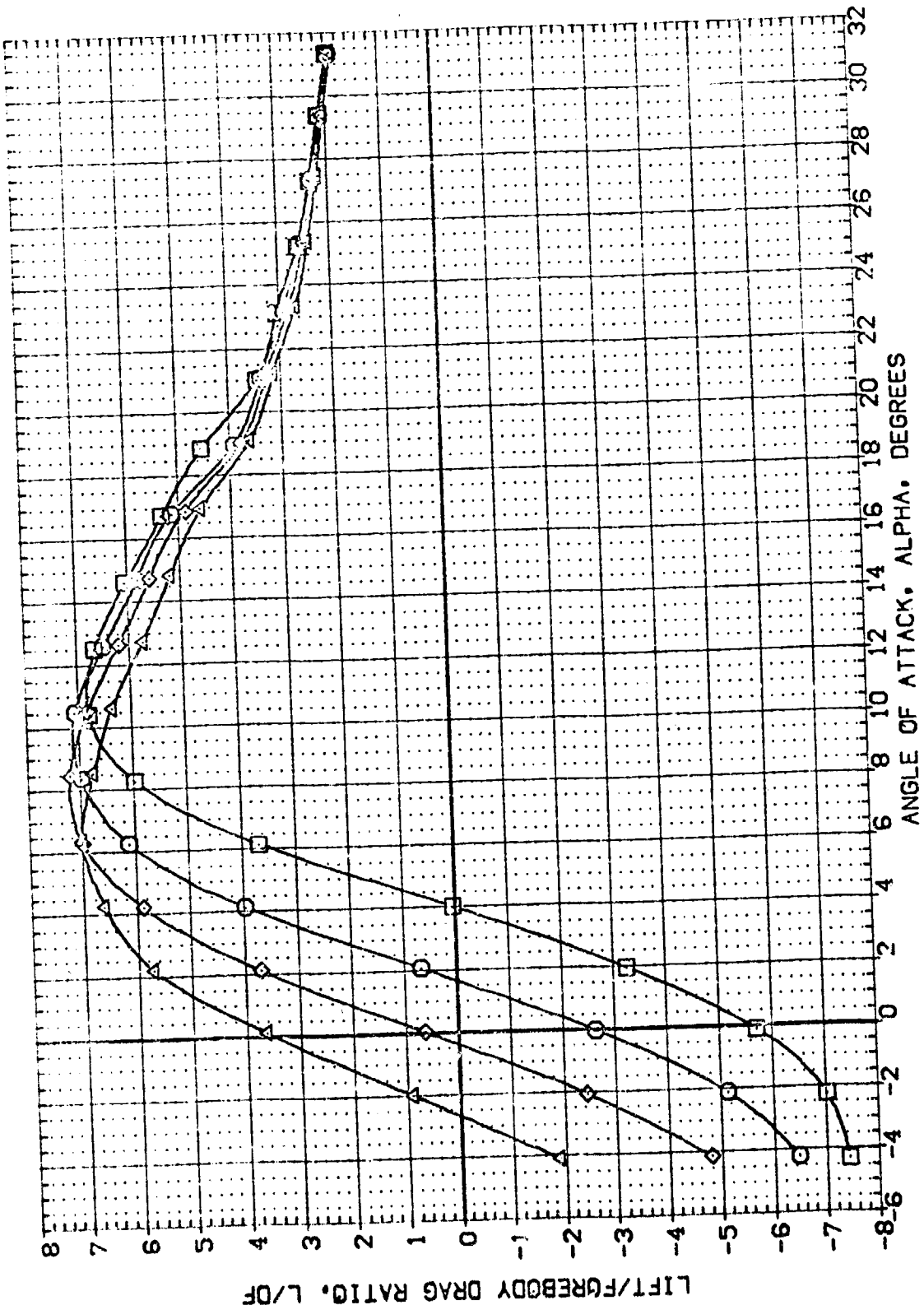


FIGURE 84 CONFIG 139B ELEVON EFFECTIVENESS

(M)MACH = .26

| | | | | | |
|--------|---------|---------|---------|-----------------------|---------|
| ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION | |
| .000 | .000 | 25.000 | -12.000 | SREF | 4.4119 |
| -5.000 | .000 | 25.000 | -18.000 | LREF | 19.2293 |
| 5.000 | .000 | 25.000 | -18.000 | PRCF | 37.5574 |
| 10.000 | .000 | 25.000 | -18.000 | YREF | 43.5574 |
| | | | | ZREF | 16.2000 |
| | | | | ZREF | 16.2000 |
| | | | | SCALE | 0.005 |

| | |
|-----------------|------------------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION |
| (EDP184) | 0A21B 81977 M4F3 V107E23V7R6 |
| (EDP187) | 0A21B 81977 M4F3 V107E23V7R6 |
| (EDP193) | 0A21B 81977 M4F3 V107E23V7R6 |
| (EDP199) | 0A21B 81977 M4F3 V107E23V7R6 |

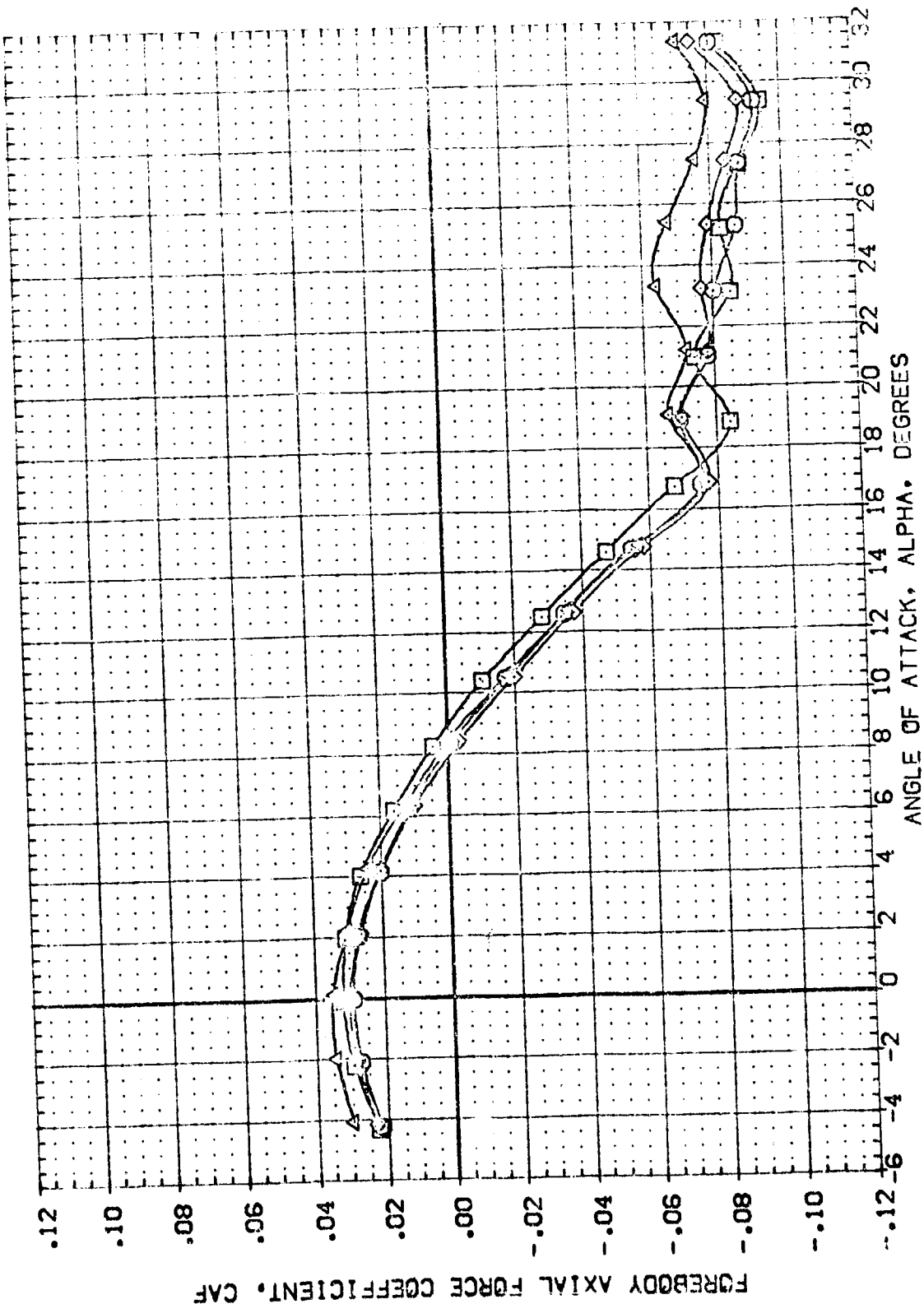


FIGURE 84 CONFIG 139B ELEVON EFFECTIVENESS

(A)MACH = .26

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | ATL/ON | SPD/ON | BOF/AP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| (EDP184) | 0A21B B1SC7 MAF5 V10VEZ3V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP197) | 0A21B B1SC7 MAF5 V10VEZ3V7R6 | -5.000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (EDP193) | 0A21B B1SC7 MAF5 V10VEZ3V7R6 | 5.000 | .000 | 25.000 | -18.000 | BREF 37.9039 INCHES |
| (EDP199) | 0A21B B1SC7 MAF5 V10VEZ3V7R6 | 10.000 | .000 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 15.2000 INCHES |
| | | | | | | SCALE .0405 |

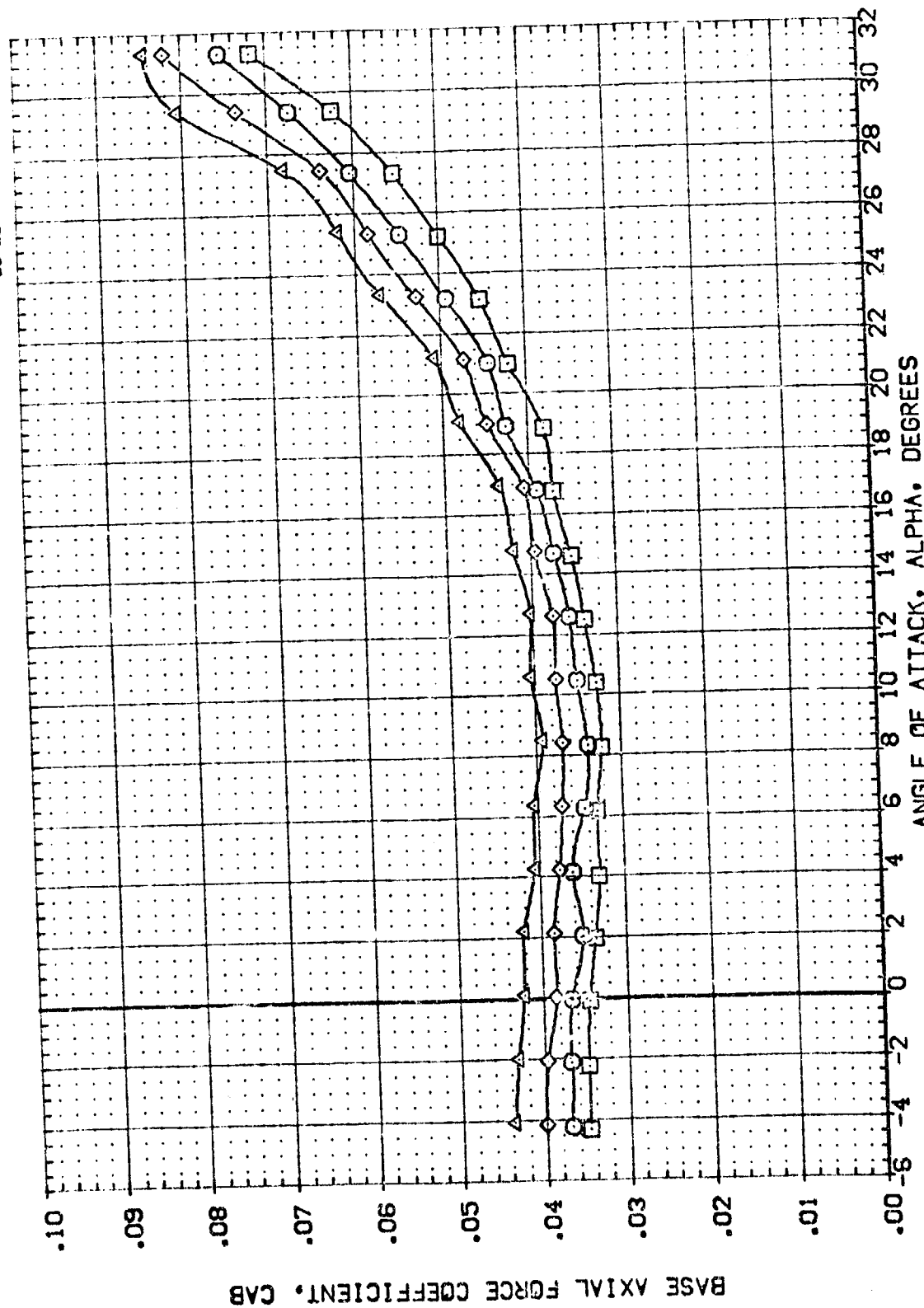


FIGURE 84 CONFIG 139B ELEVON EFFECTIVENESS

CAMACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | | | |
|----------|-------------|------|-------------|
| (EDP184) | 0A218 B19C7 | M4FS | V107E23VTR6 |
| (EDP187) | 0A218 B19C7 | M4FS | V107E23VTR6 |
| (EDP189) | 0A218 B19C7 | M4FS | V107E23VTR6 |
| (EDP193) | 0A218 B19C7 | M4FS | V107E23VTR6 |

ELEVON AILERON SPDBRK BOFLAP

| | | | |
|--------|------|--------|---------|
| .000 | .000 | 25.000 | -18.000 |
| -5.000 | .000 | 25.000 | -18.000 |
| 5.000 | .000 | 25.000 | -18.000 |
| 10.000 | .000 | 25.000 | -18.000 |

REFERENCE INFORMATION

| | | |
|-------|---------|--------|
| SREF | 4.4119 | 50 FT. |
| LREF | 19.2283 | INCHES |
| BREF | 31.3323 | INCHES |
| XREF | 43.5174 | INCHES |
| YREF | 55.0000 | INCHES |
| ZREF | 16.2000 | INCHES |
| SCALE | .0406 | |

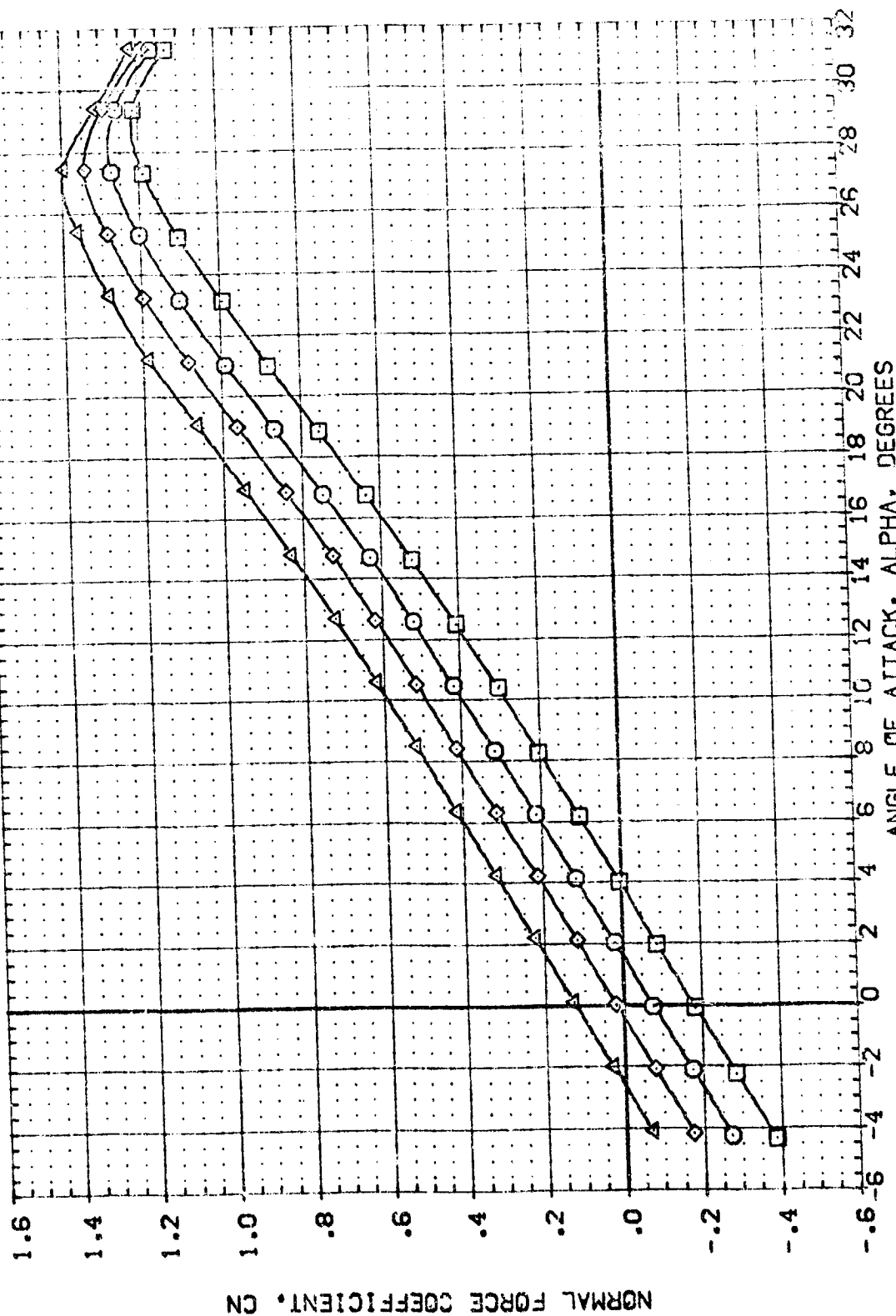


FIGURE 84 CONFIG 139B ELEVON EFFECTIVENESS

(A)MACH = .26

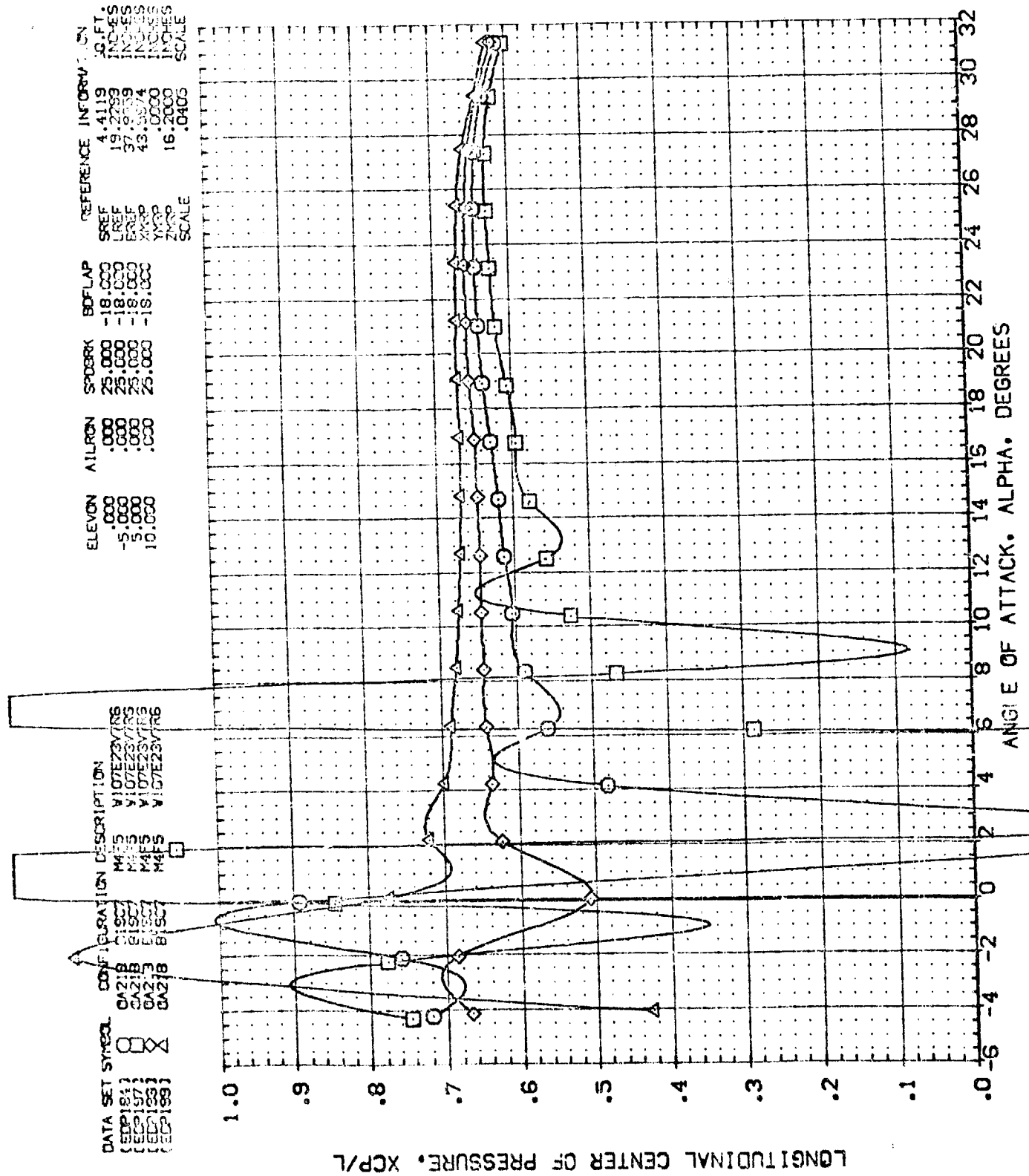


FIGURE 84 CONFIG 1393 ELEVON EFFECTIVENESS

(A)MACH = .26

| | | | | | | |
|-----------------|-----------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
| (EDP184) | Q218 B1SC7 MAFS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP197) | Q218 B1SC7 MAFS V107E23V7R6 | -5.000 | .000 | 25.000 | -18.000 | LREF 19.2238 INCHES |
| (EDP198) | Q218 B1SC7 MAFS V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (EDP199) | Q218 B1SC7 MAFS V107E23V7R6 | | | | | YREF 43.9974 INCHES |
| | | | | | | ZREF 16.0000 INCHES |
| | | | | | | SCALE 0.005 |

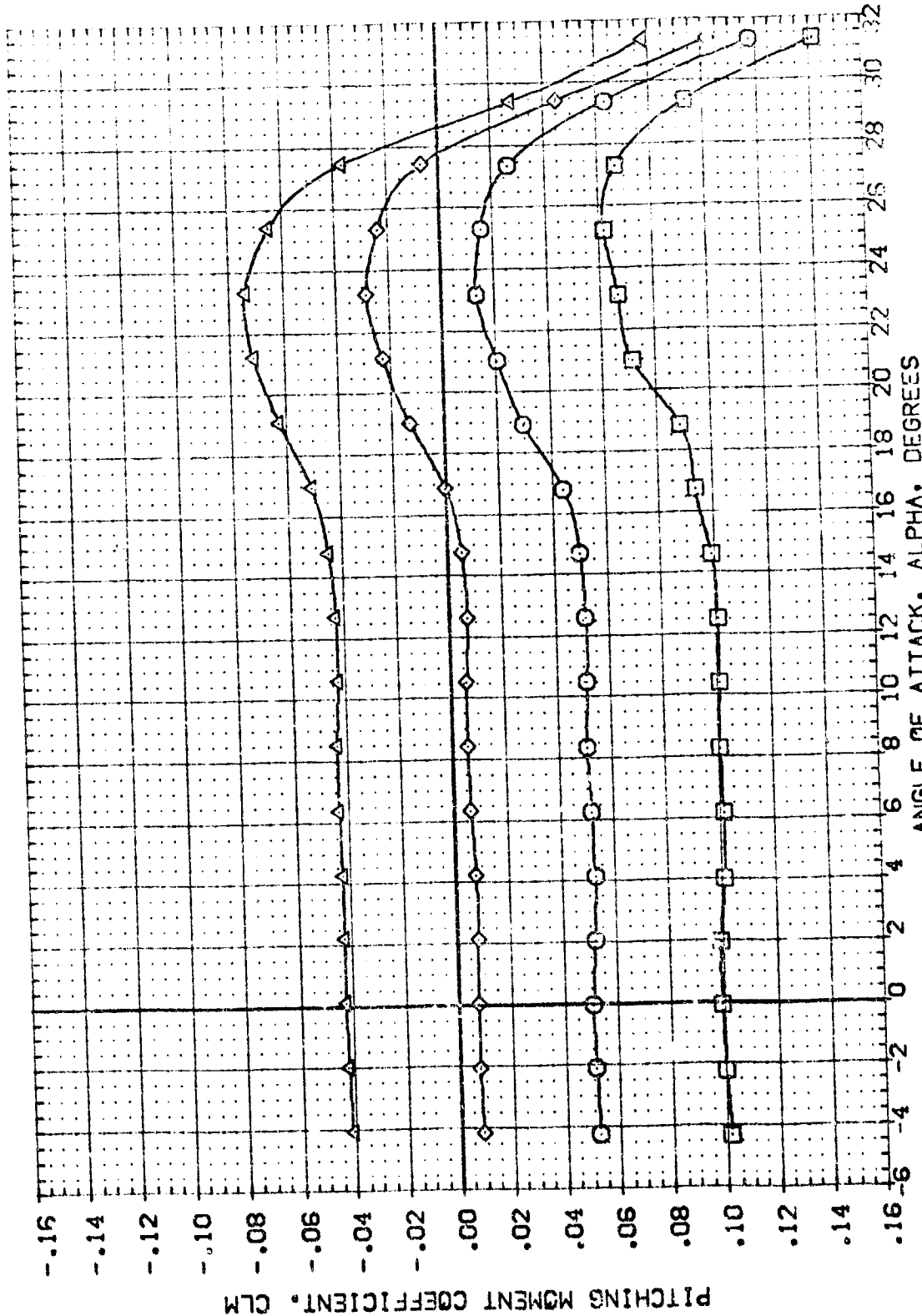


FIGURE 84 CONFIG 139B ELEVON EFFECTIVENESS

(A)MACH = .26

1.000
 1.000
 1.000
 1.000

| DATA SET SYMBO. | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|---------|---------|---------|-----------------------|
| (EDP211) | 8-218 B19C7 1/4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | REF |
| (EDP212) | 8-219 B19C7-23H4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | LREF |
| (EDP213) | 8-218 B19C7-23H4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | BREF |
| (EDP214) | 8-219 B19C7-23H4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | XMREF |
| (EDP215) | 8-218 B19C7-23H4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | YREF |
| (EDP216) | 8-219 B19C7-23H4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | ZREF |
| (EDP217) | 8-218 B19C7-23H4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | SCALE |
| (EDP218) | 8-219 B19C7-23H4F5 V107E23VTRG | .000 | .000 | 25.000 | -18.000 | SCALE |

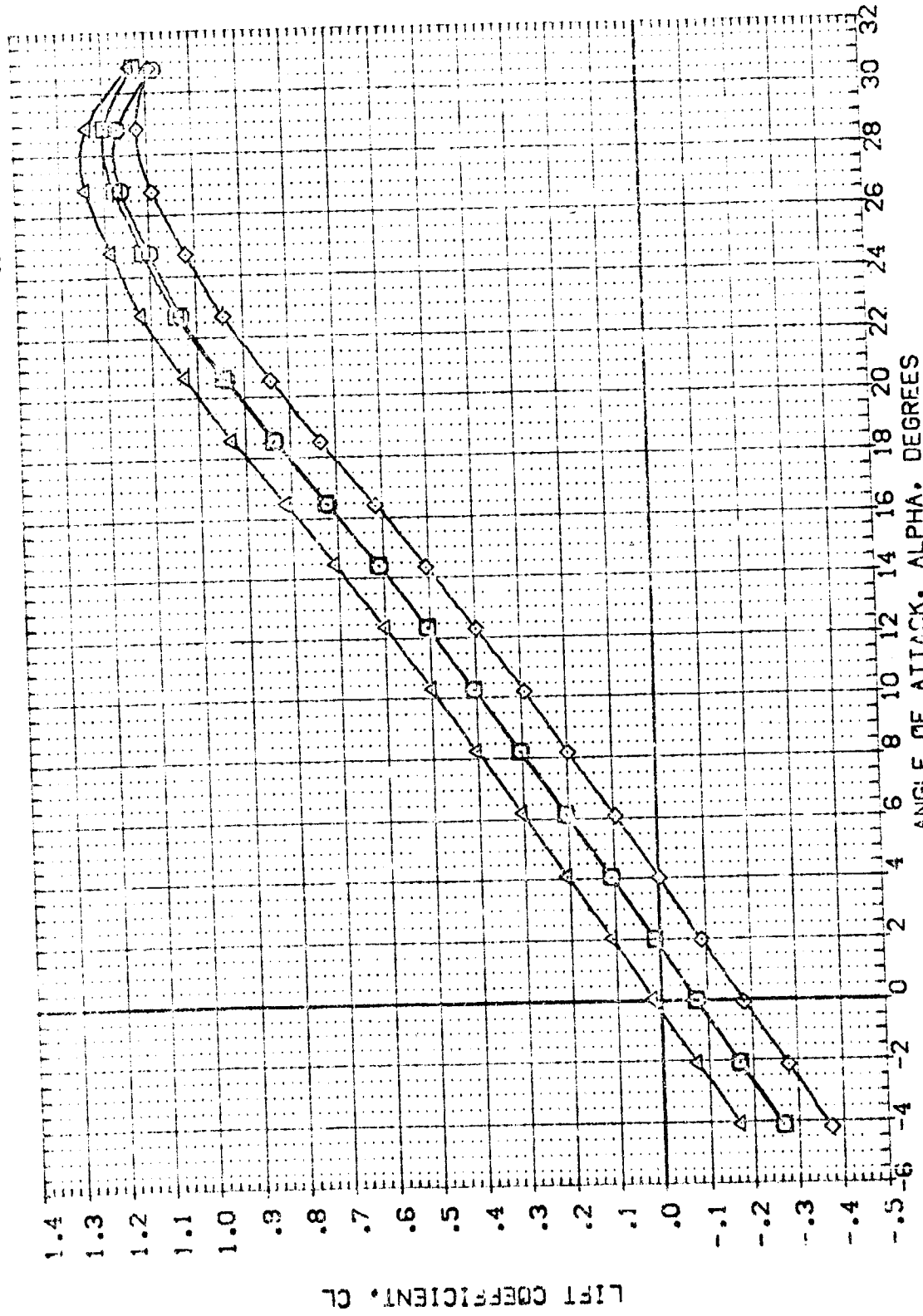


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

EDP231 0A21B B1SC7 MAF5 V107E23V7R6

EDP213 0A21B B1SC7H23M4F5 V107E23V7R6

EDP229 0A21B B1SC7H23M4F5 V107E23V7R6

EDP230 0A21B B1SC7H23M4F5 V107E23V7R6

ELEVON AILRON SPDBRK BOFLAP

.000 .000 25.000 -18.000

.000 .000 25.000 -10.000

-5.000 .000 25.000 -18.000

5.000 .000 25.000 -18.000

REFERENCE INFORMATION

4.4119 50.000

15.2700 10.000

47.9000 10.000

47.9000 10.000

15.2700 10.000

SCALE

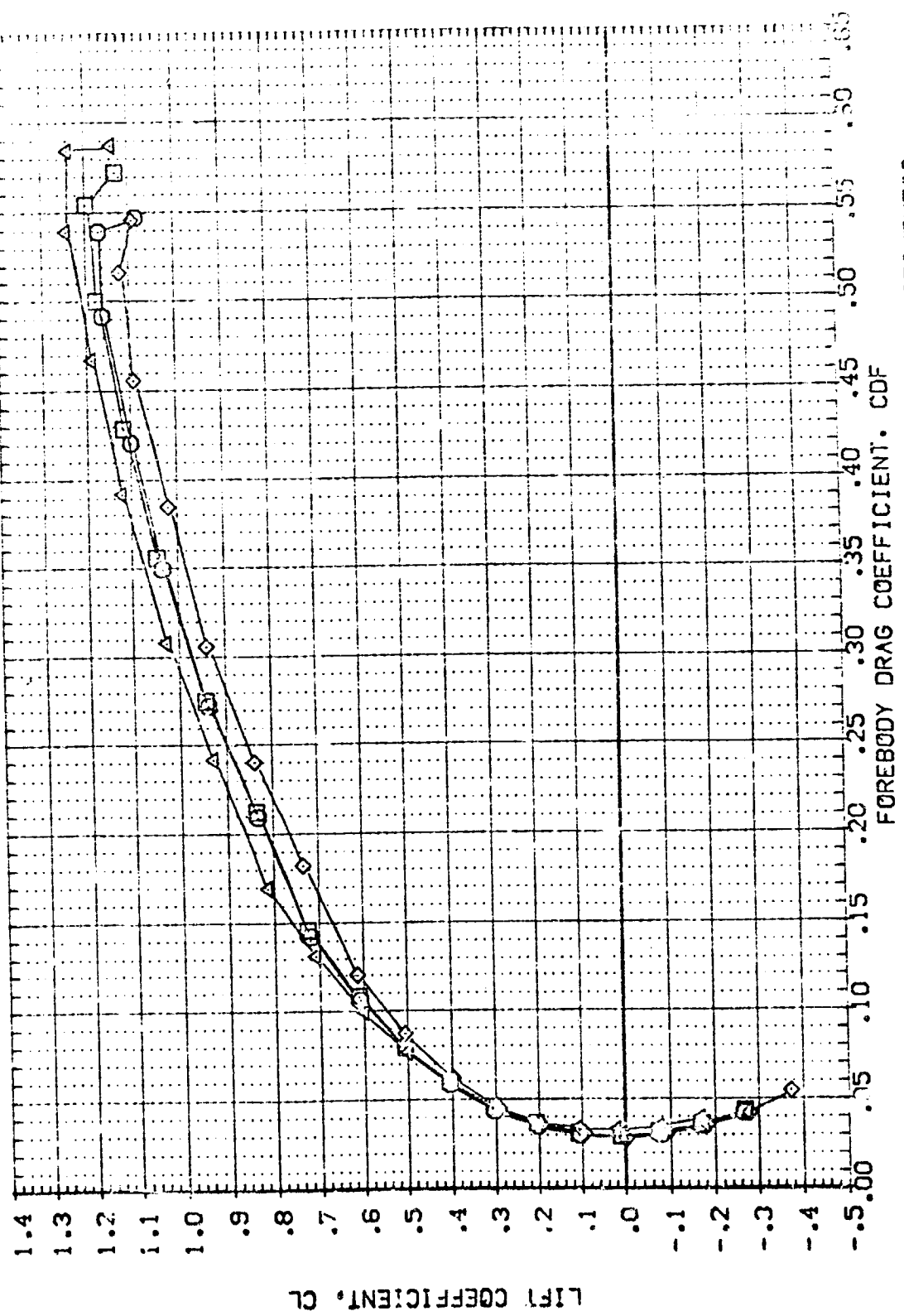
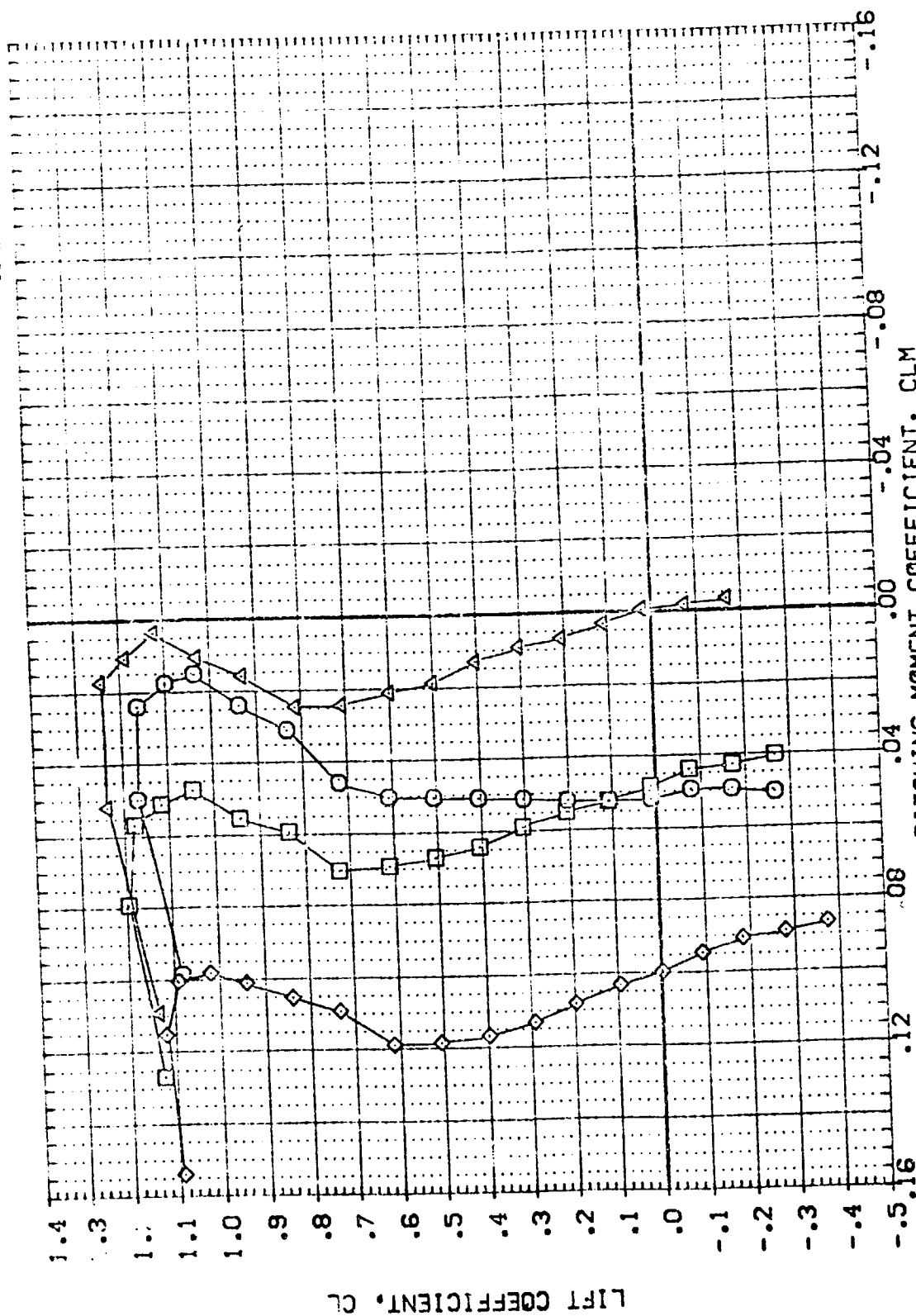


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

| | | | |
|--------|--------|--------|---------|
| ELEVEN | AIRLON | SPOBRK | BOFLAP |
| .000 | .000 | 25.000 | -10.000 |
| .000 | .000 | 25.000 | -10.000 |
| -5.000 | .000 | 25.000 | -10.000 |
| 5.000 | .000 | 25.000 | -10.000 |

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION |
|-----------------|--------------------------------|
| (EDP231) | 0A218 B19C7 M1F5 V107E23V7R6 |
| (EDP213) | 0A218 B19C7H23V4F5 V107E23V7R6 |
| (EDP223) | 0A218 B19C7H23V4F5 V107E23V7R6 |
| (EDP230) | 0A218 B19C7H23V4F5 V107E23V7R6 |



PITCHING MOMENT COEFFICIENT, $C_{m\dot{\alpha}}$

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|---------|---------|---------|-----------------------|
| (EDP231) | 0A218 B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4 4119 50.000 |
| (EDP213) | 0A218 B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19 2759 100.000 |
| (EDP229) | 0A218 B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | PREF 37 9355 100.000 |
| (EDP230) | 0A218 B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | XMAP 43 0000 100.000 |
| | | | | | | YMAP 15 0000 100.000 |
| | | | | | | ZMAP 15 0000 100.000 |
| | | | | | | SCALE .0005 |

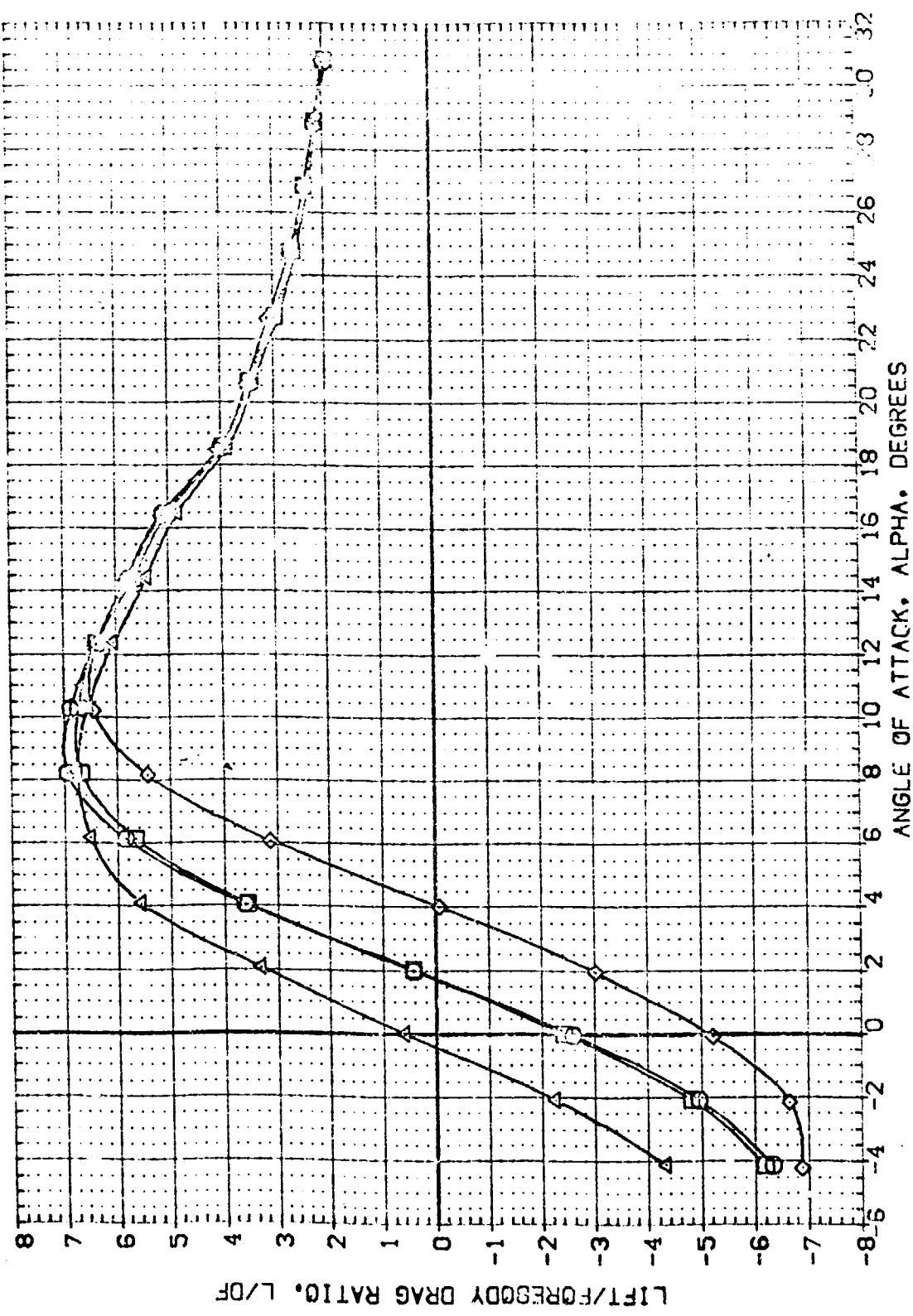


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [EDP231] 0A218 819C7 MAFS V107E23V7R6
 [EDP213] 0A218 819C7H23H4FS V107E23V7R6
 [EDP229] 0A219 819C7H23H4FS V107E23V7R6
 [EDP230] 0A213 819C7H23H4FS V107E23V7R6

ELEVON AILRON SPUBRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 -5.000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.419 SQ.FT.
 LREF 19.243 INCHES
 BREF 37.599 INCHES
 XREF 43.597 INCHES
 YREF 16.000 INCHES
 ZREF 16.000 INCHES
 SCALE .0405

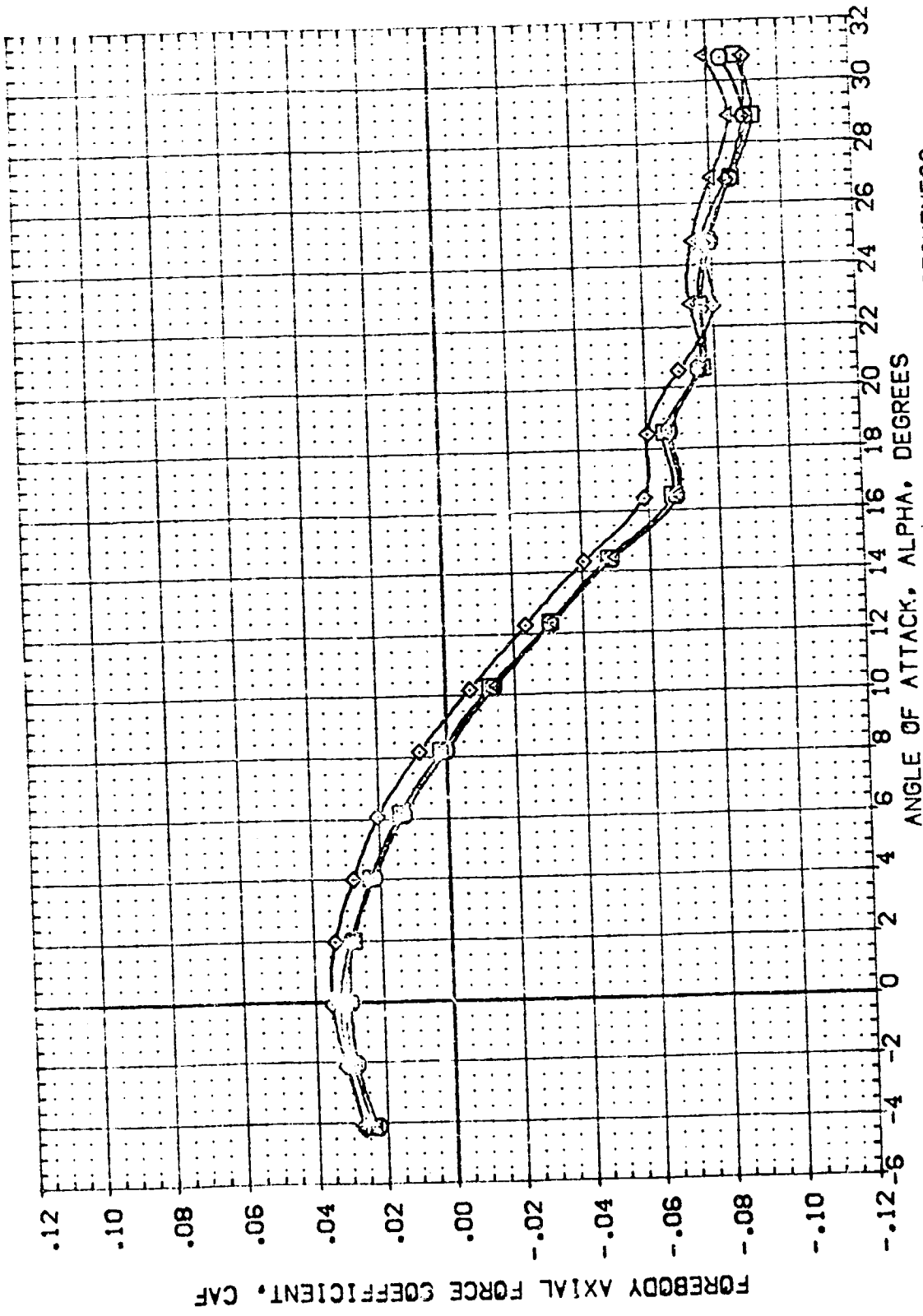


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS
 (A)MACH = .16

| | | | | | |
|-------------------|-------|---------------------------|------|-----------------------|--|
| DATA SET 1: 1980L | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (EDP231) | 0A21B | B19C7 | M4FS | V107E23V7R6 | |
| (EDP213) | 0A21B | B19C7H23M4FS | | V107E23V7R6 | |
| (EDP228) | 0A21B | B19C7H23M4FS | | V107E23V7R6 | |
| (EDP230) | 0A21B | B19C7H23M4FS | | V107E23V7R6 | |

| | | | | | | |
|--------|--------|--------|---------|-------|---------|--------|
| ELEVON | AILRON | SPDRBK | BOFLAP | SRREF | 4.4119 | 50.FT. |
| .000 | .000 | 25.000 | -18.000 | LRREF | 19.2289 | INCHES |
| .000 | .000 | 23.000 | -18.000 | BRREF | 37.9359 | INCHES |
| -5.000 | .000 | 23.000 | -18.000 | XRREF | 43.0000 | INCHES |
| 5.000 | .000 | 25.000 | -18.000 | YMRP | 16.2000 | INCHES |
| | | | | ZMRP | 16.2000 | INCHES |
| | | | | SCALE | .0405 | SCALE |

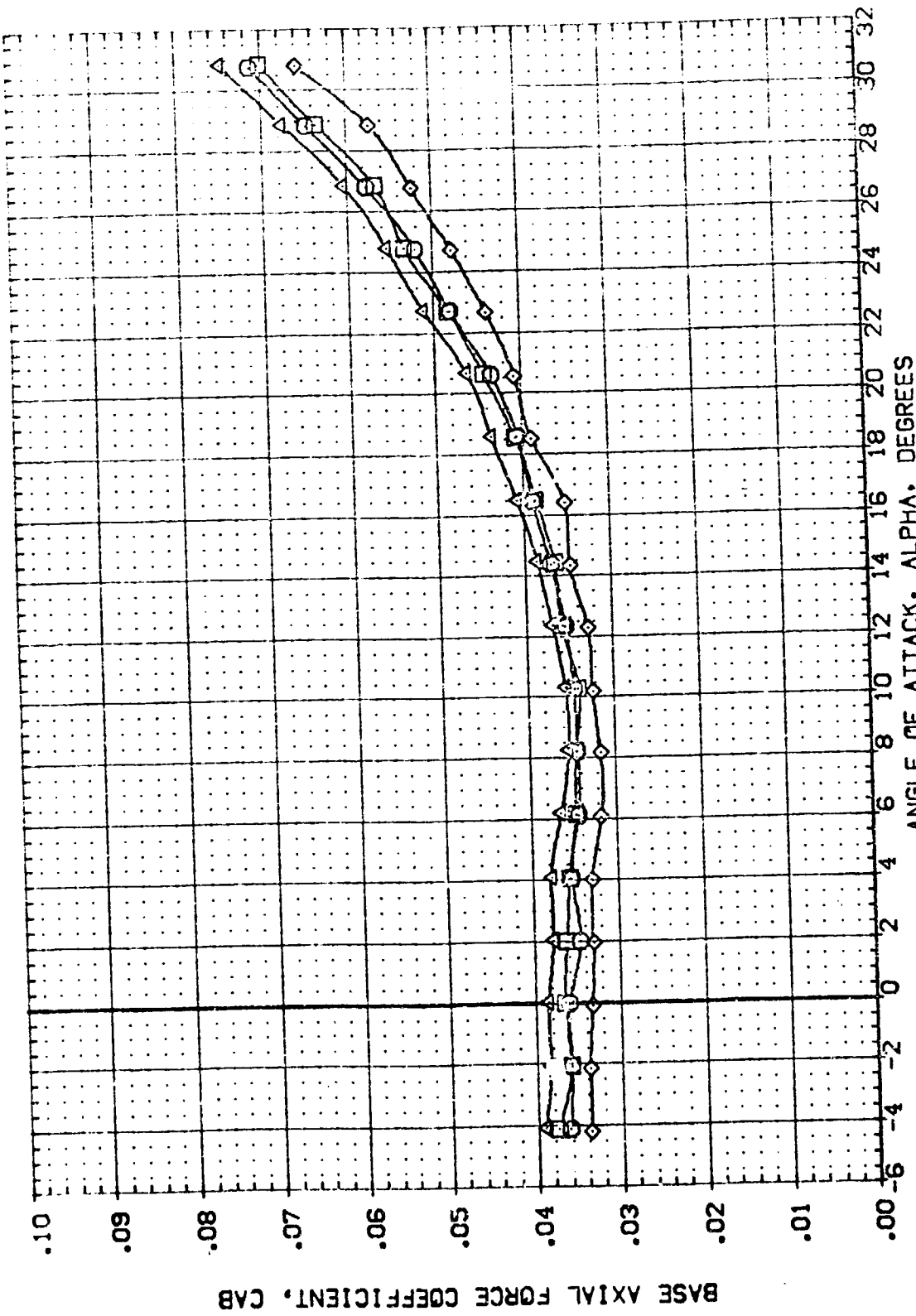


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS

(MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|---------|--------|---------|---------------------------|
| (EDP231) | 0A218 B19C7 MAFS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. INCHES |
| (EDP213) | 0A218 B19C7 Q3H4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2239 INCHES |
| (EDP223) | 0A218 B19C7 Q3H4FS V107E23V7R6 | -5.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (EDP230) | 0A218 B19C7 Q3H4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | XREF 43.5074 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

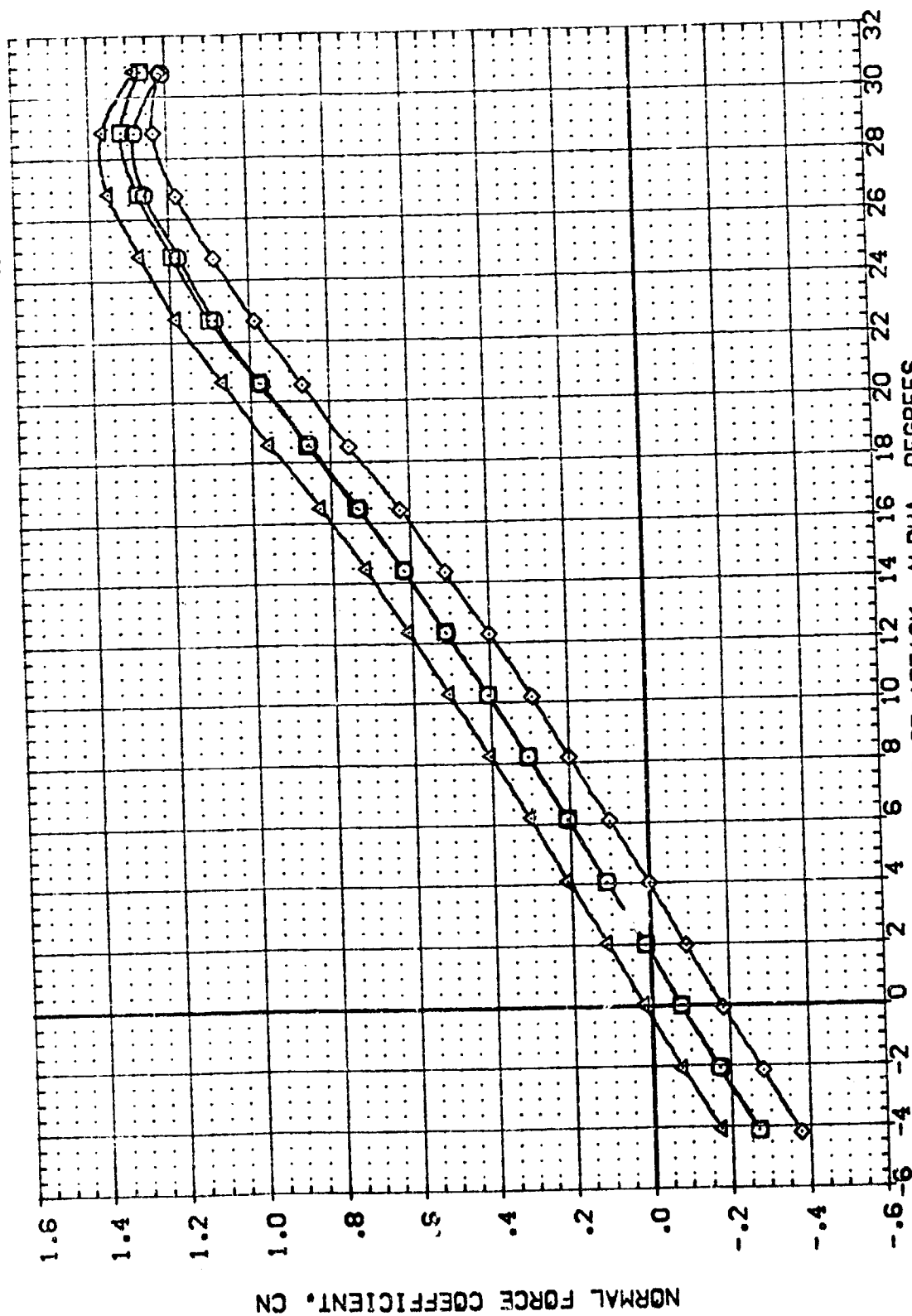


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS

(M)MACH = .16

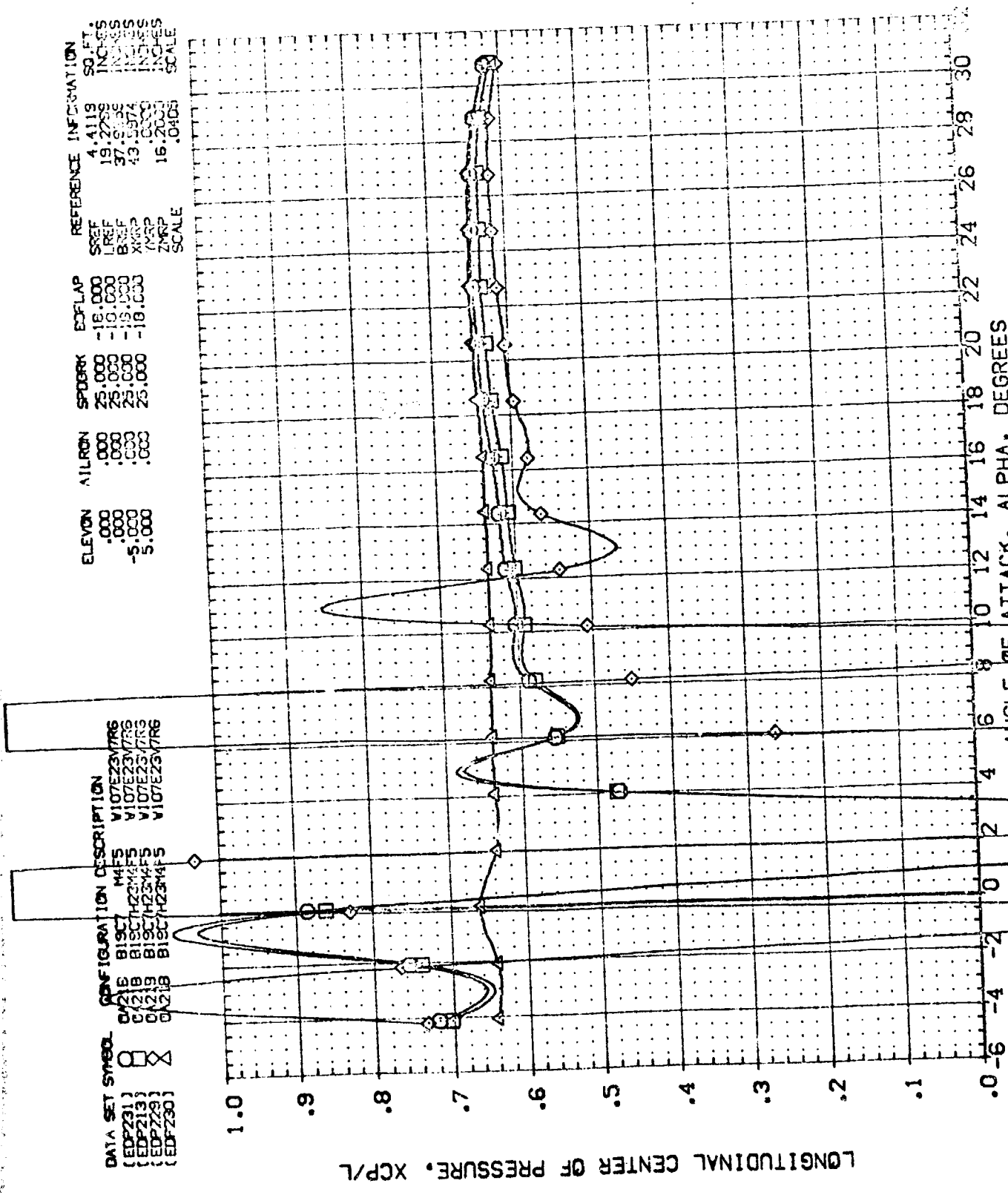


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|---------|--------|---------|-----------------------|
| (EDP231) | CA21B B19C7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP213) | CA21B B19C7-23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2238 INCHES |
| (EDP229) | CA21B B19C7H23M4FS V107E23V7R6 | -5.000 | .000 | 25.000 | -18.000 | BREF 37.9303 INCHES |
| (EDP230) | CA21B B19C7H23M4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0105 |

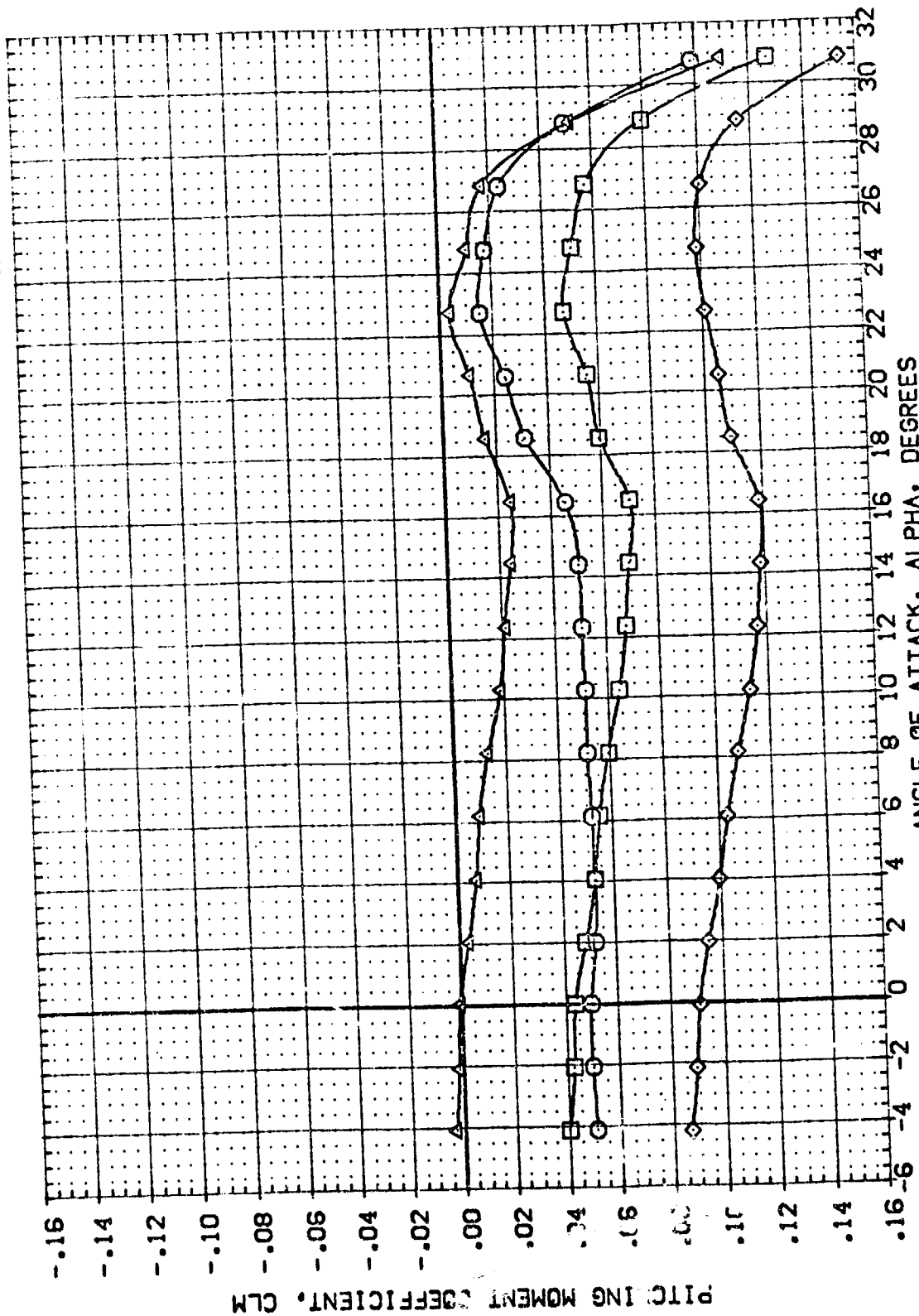


FIGURE 85 CONFIG 139B CANARD (H23) INFLUENCE ON ELEVON EFFECTIVENESS



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|----------------------------------|--------|---------|---------|---------|-----------------------|
| (ED231) | 0A218 B19C7 MAPS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED232) | 0A218 B19C7 MAPS V107E23V7R6Z2 | .000 | .000 | 25.000 | -18.000 | LREF 19.2233 INCHES |
| (ED233) | 0A218 B19C7 MAPS V107E23V7R6Z2Z3 | .000 | .000 | 25.000 | -18.000 | BREF 37.6274 INCHES |
| | | .000 | .000 | 25.000 | -18.000 | XMRP 43.5074 INCHES |
| | | .000 | .000 | 25.000 | -18.000 | YMRP .0000 INCHES |
| | | .000 | .000 | 25.000 | -18.000 | ZMRP 16.2033 INCHES |
| | | .000 | .000 | 25.000 | -18.000 | SCALE .0005 |

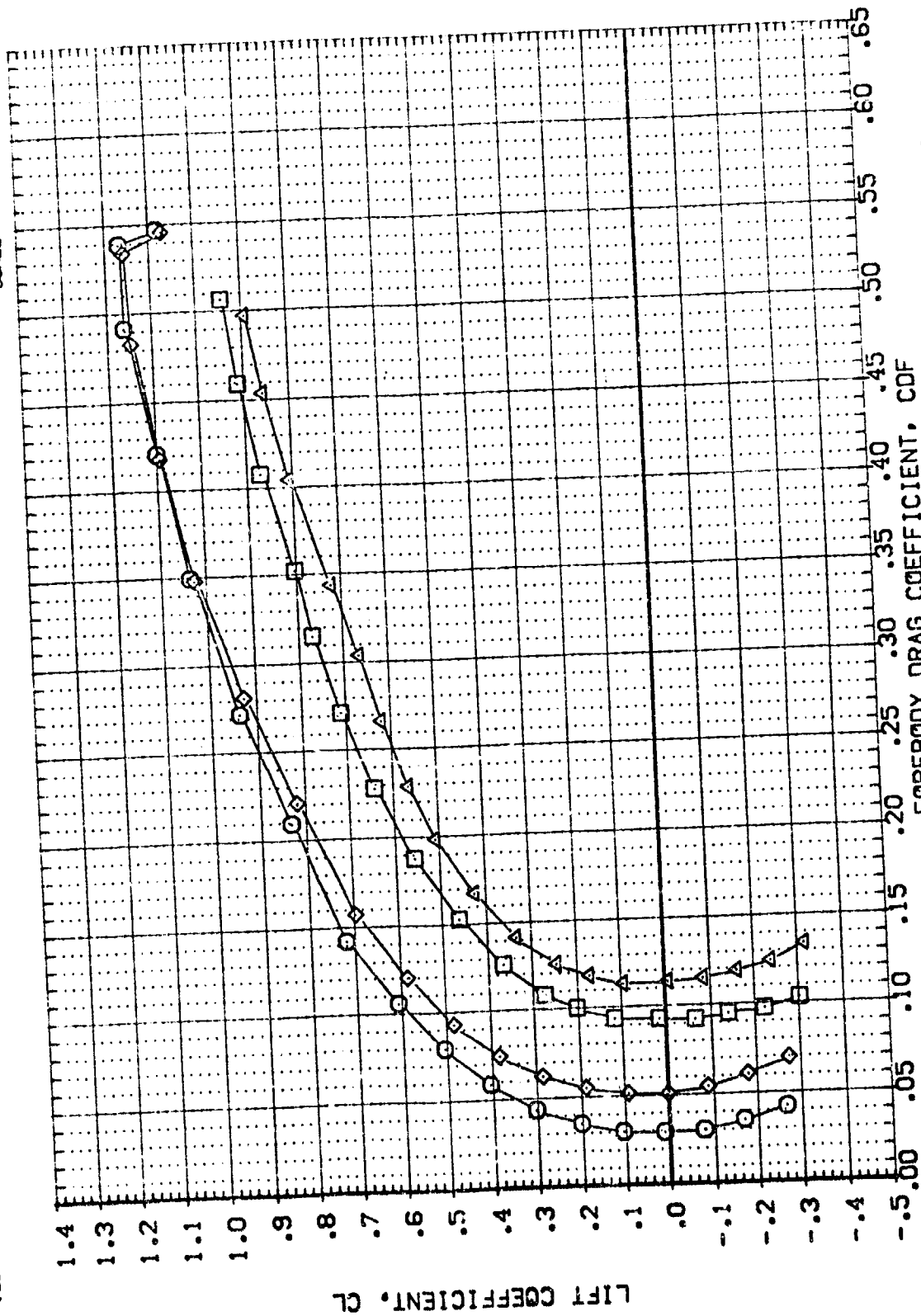


FIGURE 86 CONFIG 1398 SPEED BRAKE EFFECTIVENESS(BASIC Z2 Z3 SPEEDBRK)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION |
|-----------------|---------------------------|
| (EDP231) | 0A218 B1SC7 |
| (EDP232) | 0A218 B1SC7 |
| (EDP233) | 0A218 B1SC7 |
| (EDP234) | 0A218 B1SC7 |
| (EDP235) | 0A218 B1SC7 |

REFERENCE INFORMATION

| REFERENCE INFORMATION | VALUE |
|-----------------------|---------|
| SREF | 4.4119 |
| LREF | 19.2299 |
| WREF | 37.9539 |
| XREF | 43.9574 |
| YREF | 16.0000 |
| ZREF | 16.0000 |
| SCALE | 0.005 |

ELEVON AILRON SPOBRK BOFLAP

| ELEVON | AILRON | SPOBRK | BOFLAP |
|--------|--------|--------|---------|
| .000 | .000 | 25.000 | -19.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |

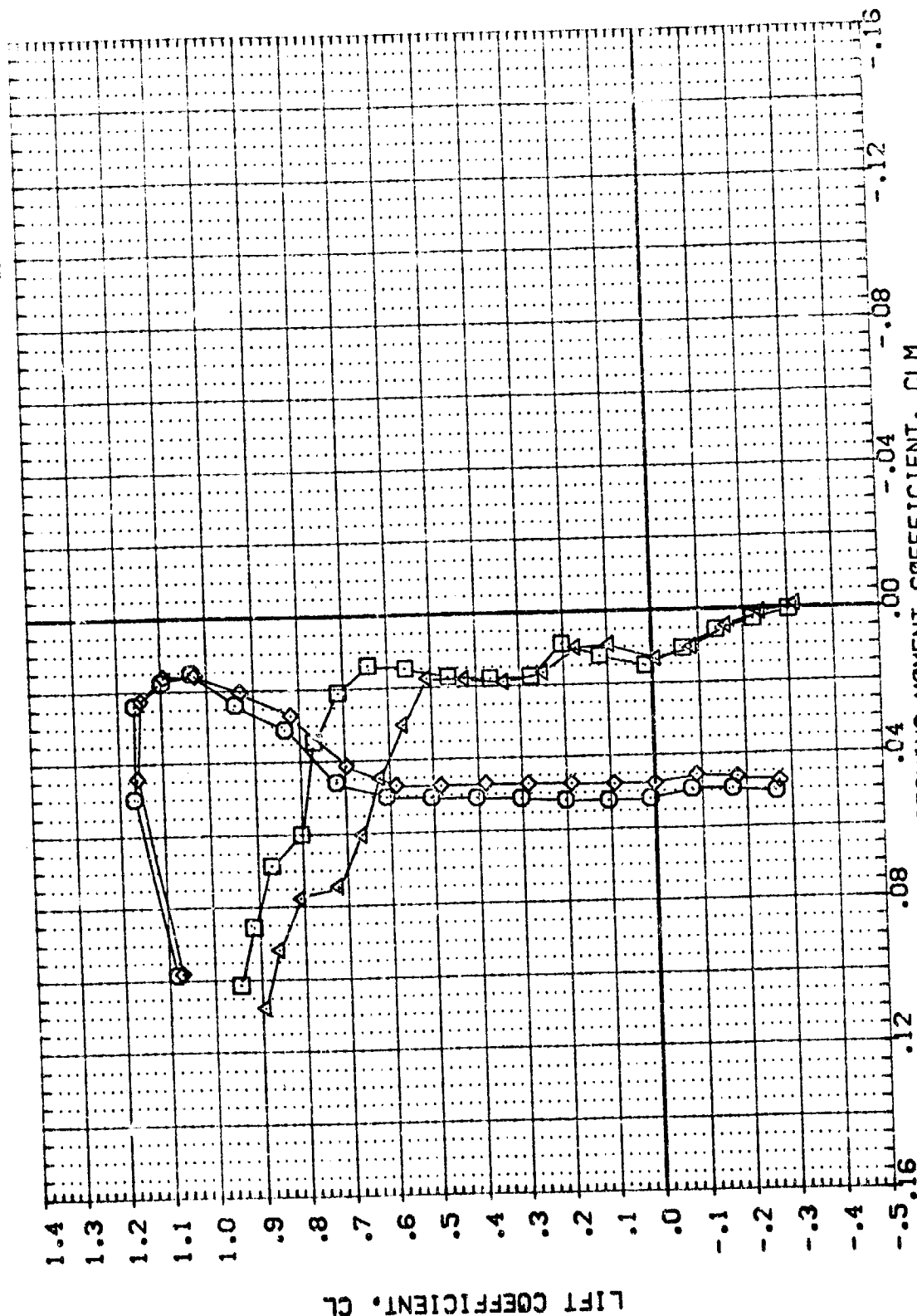


FIGURE 86 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z2 Z3 SPEEDBRK)

(A)MACH = .16



| DATA SET SYMBOL | CONFIGURATION | DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------|-------------|--------|-------------|--------|-------------|-----------------------|
| (ED2231) | CA218 | B19C7 | M4FS | V107E23V7R6 | M4FS | V107E23V7R6 | SREF 4.4119 SQ.FT. |
| (ED2232) | CA218 | B19C7 | M4FS | V107E23V7R6 | M4FS | V107E23V7R6 | LREF 19.2233 INCHES |
| (ED2233) | CA218 | B19C7 | M4FS | V107E23V7R6 | M4FS | V107E23V7R6 | BREF 37.9559 INCHES |
| (ED2234) | CA218 | B19C7 | M4FS | V107E23V7R6 | M4FS | V107E23V7R6 | XMRP 43.5574 INCHES |
| (ED2235) | CA218 | B19C7 | M4FS | V107E23V7R6 | M4FS | V107E23V7R6 | YMRP 0.000 INCHES |
| (ED2236) | CA218 | B19C7 | M4FS | V107E23V7R6 | M4FS | V107E23V7R6 | ZMRP 16.2000 INCHES |
| (ED2237) | CA218 | B19C7 | M4FS | V107E23V7R6 | M4FS | V107E23V7R6 | SCALE 0.0105 |

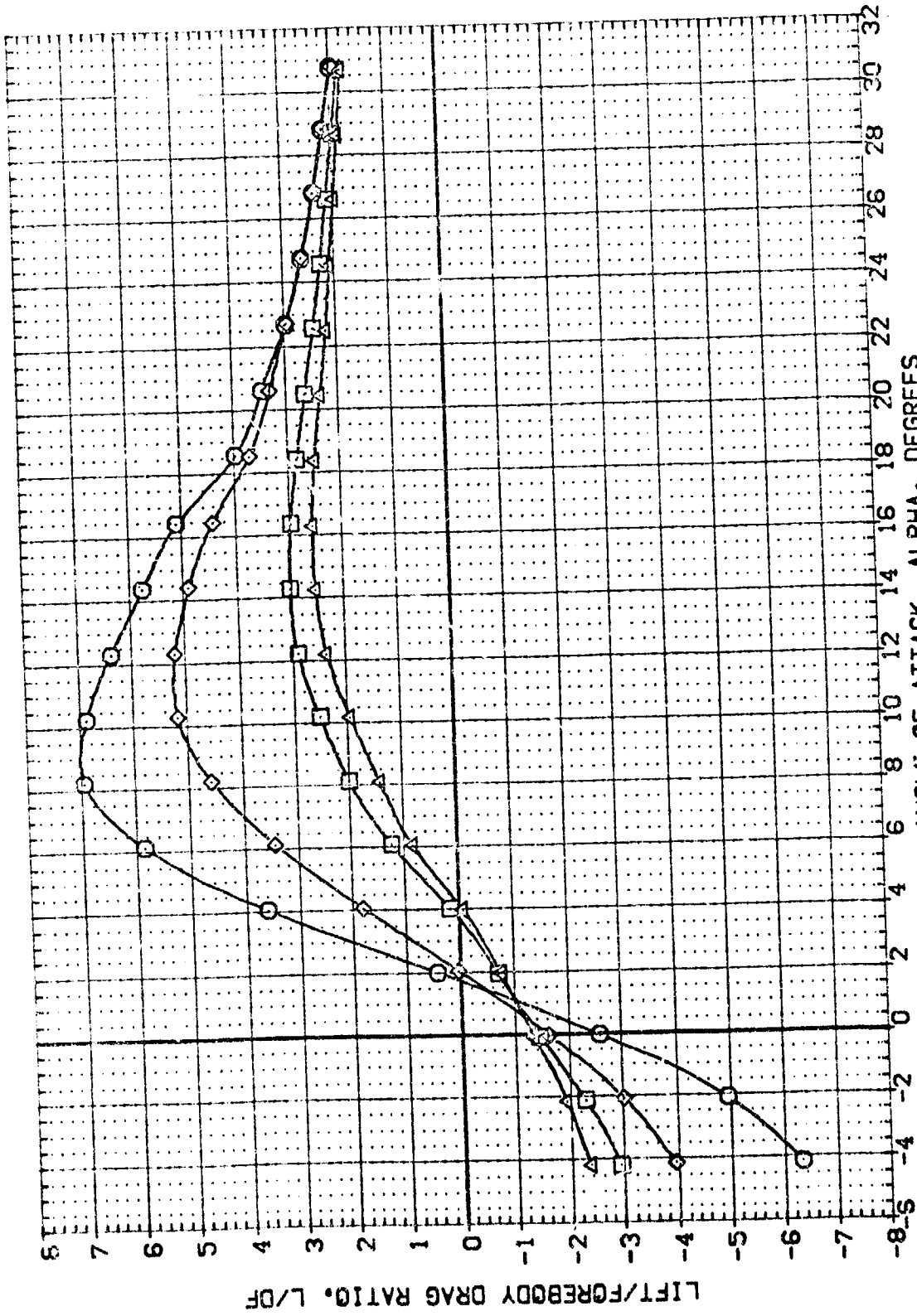


FIGURE 86 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z2 Z3 SPEEDBRK)

| | | | | | | | |
|-----------------|-------|-------------|--------|---------|----------|---------|-----------------------|
| DATA SET SYMBOL | CONF | DESCRIPTION | ELEVON | AILERON | SPEEDBRK | BOXFLAP | REFERENCE INFORMATION |
| (EDP231) | 0A21B | B19C7 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 |
| (EDP232) | 0A21B | B19C7 | .000 | .000 | 25.000 | -18.000 | LREF 19.2003 |
| (EDP233) | 0A21B | B19C7 | .000 | .000 | 25.000 | -18.000 | BREF 43.1504 |
| | 0A21B | B19C7 | .000 | .000 | 25.000 | -18.000 | XREF 43.1504 |
| | 0A21B | B19C7 | .000 | .000 | 25.000 | -18.000 | YREF 16.2000 |
| | 0A21B | B19C7 | .000 | .000 | 25.000 | -18.000 | ZREF 16.2000 |
| | | | | | | | SCALE 10.000 |

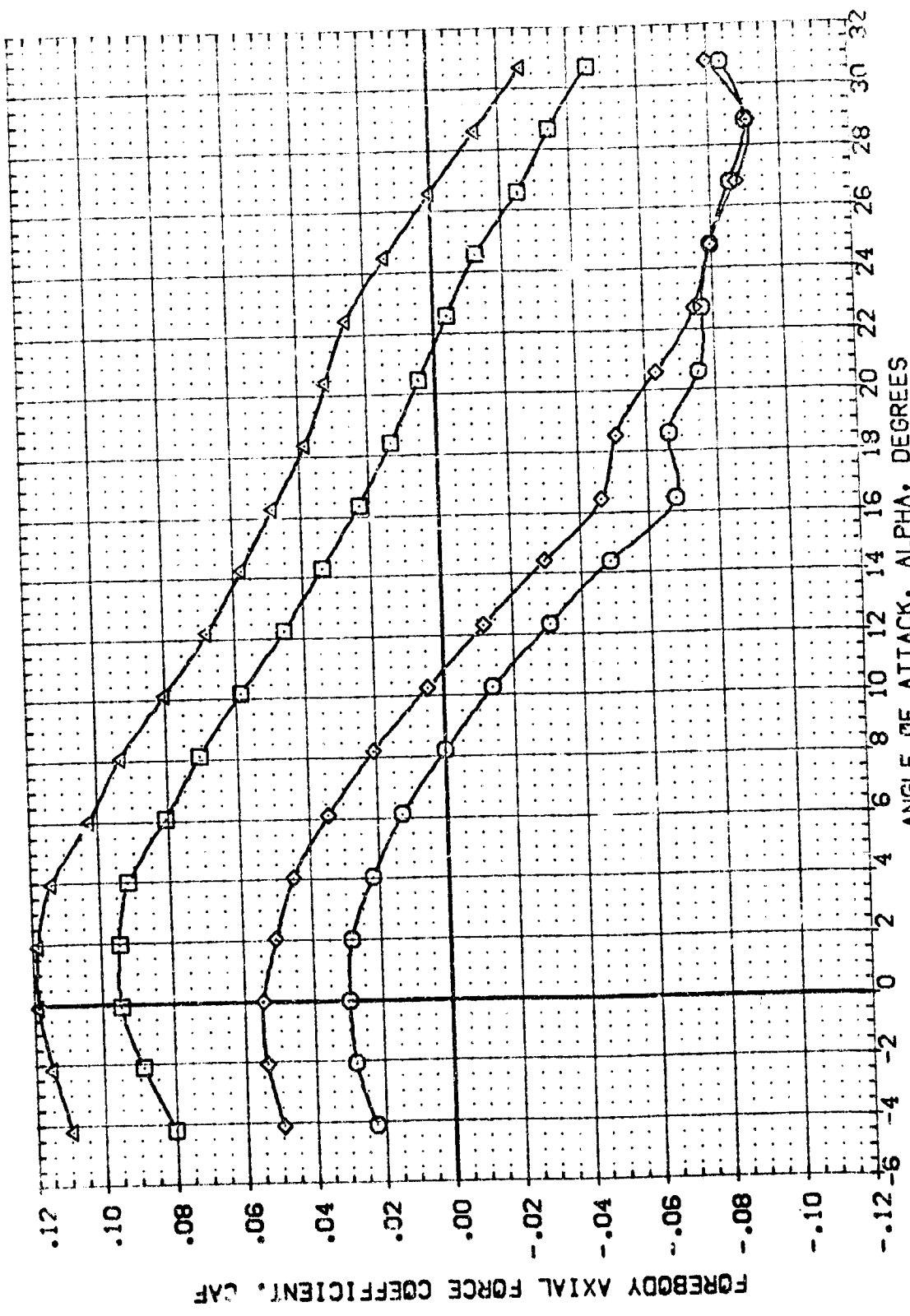


FIGURE 86 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z2 Z3 SPEEDBRK)

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | SLFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|---------|--------|---------|-----------------------|
| (EDP231) | CA21B 81SC7 | .000 | .000 | 25.000 | -19.000 | SREF 4.4119 SQ.FT. |
| (EDP232) | CA21B 81SC7 | .000 | .000 | 25.000 | -19.000 | LREF 19.2209 INCHES |
| (EDP233) | CA21B 81SC7 | .000 | .000 | 25.000 | -19.000 | SREF 27.9539 INCHES |
| (EDP234) | CA21B 81SC7 | .000 | .000 | 25.000 | -19.000 | XREF 43.5074 INCHES |
| (EDP235) | CA21B 81SC7 | .000 | .000 | 25.000 | -19.000 | YREF 16.0000 INCHES |
| (EDP236) | CA21B 81SC7 | .000 | .000 | 25.000 | -19.000 | ZREF 16.0000 INCHES |
| (EDP237) | CA21B 81SC7 | .000 | .000 | 25.000 | -19.000 | SCALE 0.005 |

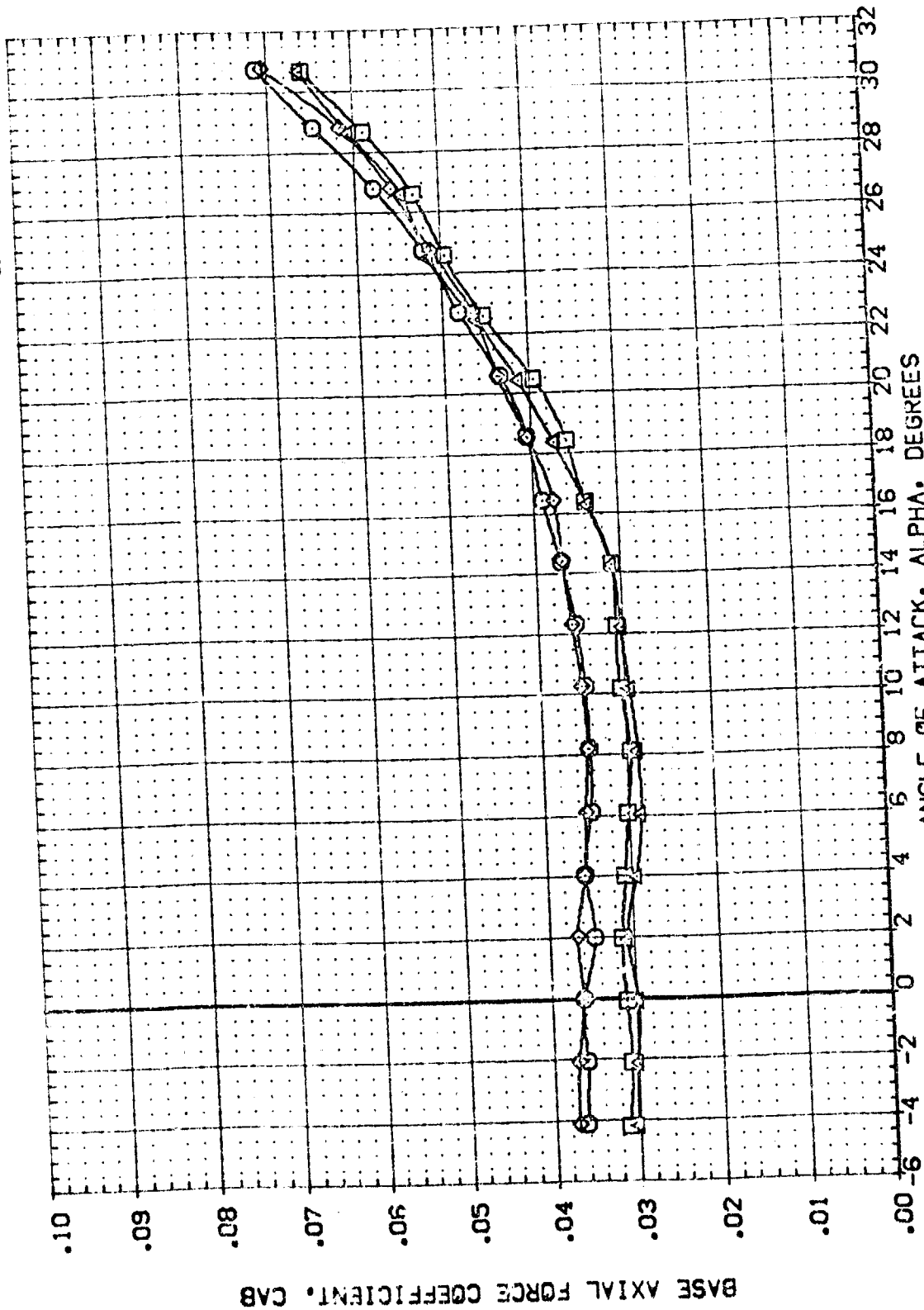


FIGURE 86 CONFIG 1398 SPEED BRAKE EFFECTIVENESS(BASIC Z2 Z3 SPEEDBRK)

CADRACH = .16

| | | | | | | | |
|-----------------|---------------------------------|--------|---------|----------|---------|-----------------------|---------|
| DATA SET 51480L | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEEDBRK | BOT LAP | REFERENCE INFORMATION | SOURCE |
| (EDP231) | QAC16 B19C7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -10.000 | 4.4119 | 19.2290 |
| (EDP232) | QAC16 B19C7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -10.000 | 37.2299 | 37.2299 |
| (EDP233) | QAC16 B19C7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -10.000 | 43.2299 | 43.2299 |
| | | | | | | 16.2299 | 16.2299 |
| | | | | | | SCALE | SCALE |

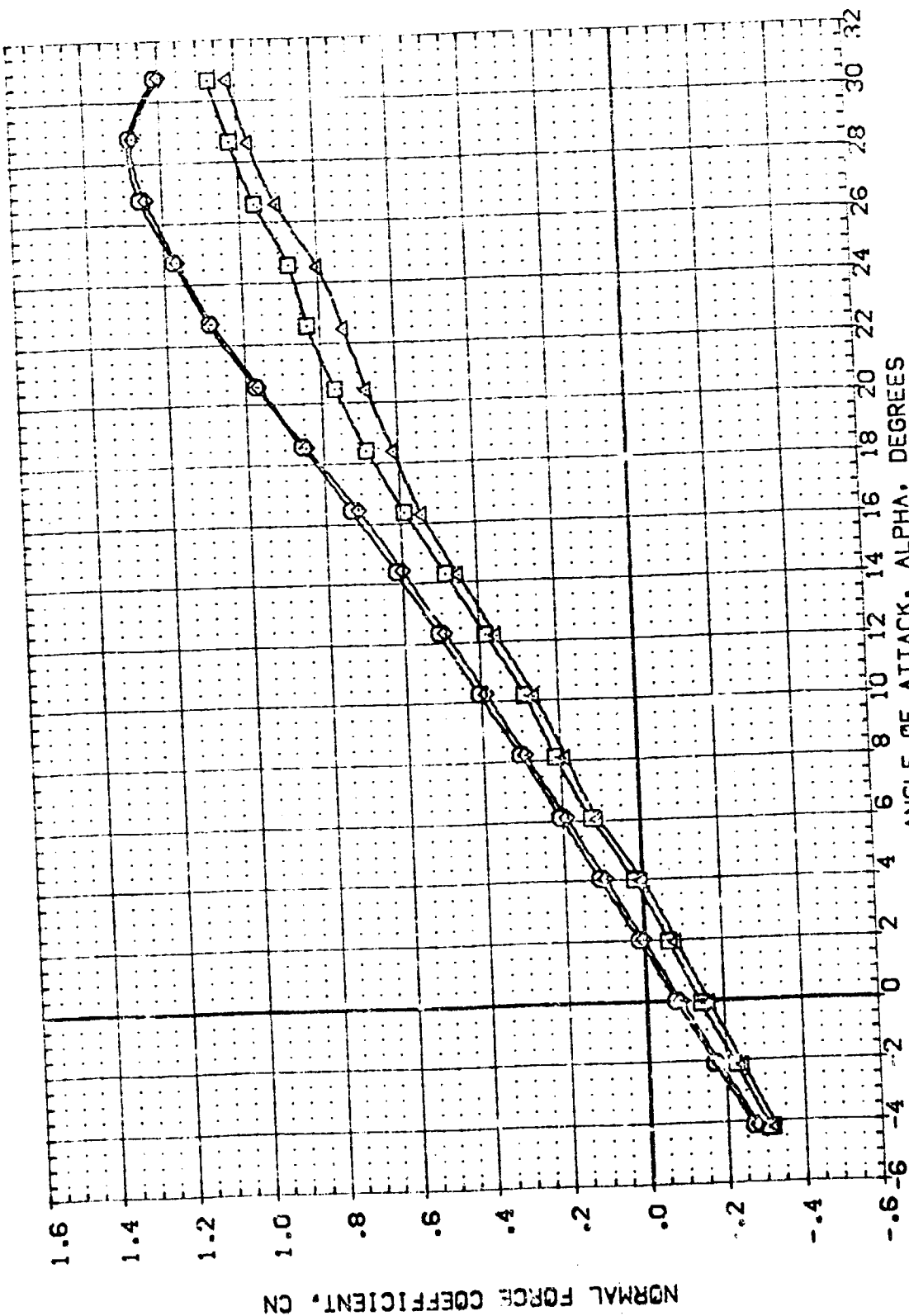


FIGURE 86 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC 72 Z3 SPEEDBRK)

(MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEEDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|---------|----------|---------|-----------------------|
| (EDP231) | GA21B (1)SC7 | .000 | .000 | 25.000 | -10.000 | SC.FT. 4.4113 |
| (EDP232) | GA21B (1)SC7 | .000 | .000 | 25.000 | -18.000 | INCHES 19.2233 |
| (EDP233) | GA21B (1)SC7 | .000 | .000 | 25.000 | -18.000 | INCHES 37.5374 |
| | GA21B (1)SC7 | .000 | .000 | 25.000 | -18.000 | INCHES 43.5374 |
| | GA21B (1)SC7 | .000 | .000 | 25.000 | -18.000 | INCHES 15.2233 |
| | GA21B (1)SC7 | .000 | .000 | 25.000 | -18.000 | INCHES 15.2233 |
| | GA21B (1)SC7 | .000 | .000 | 25.000 | -18.000 | SCALE .0405 |

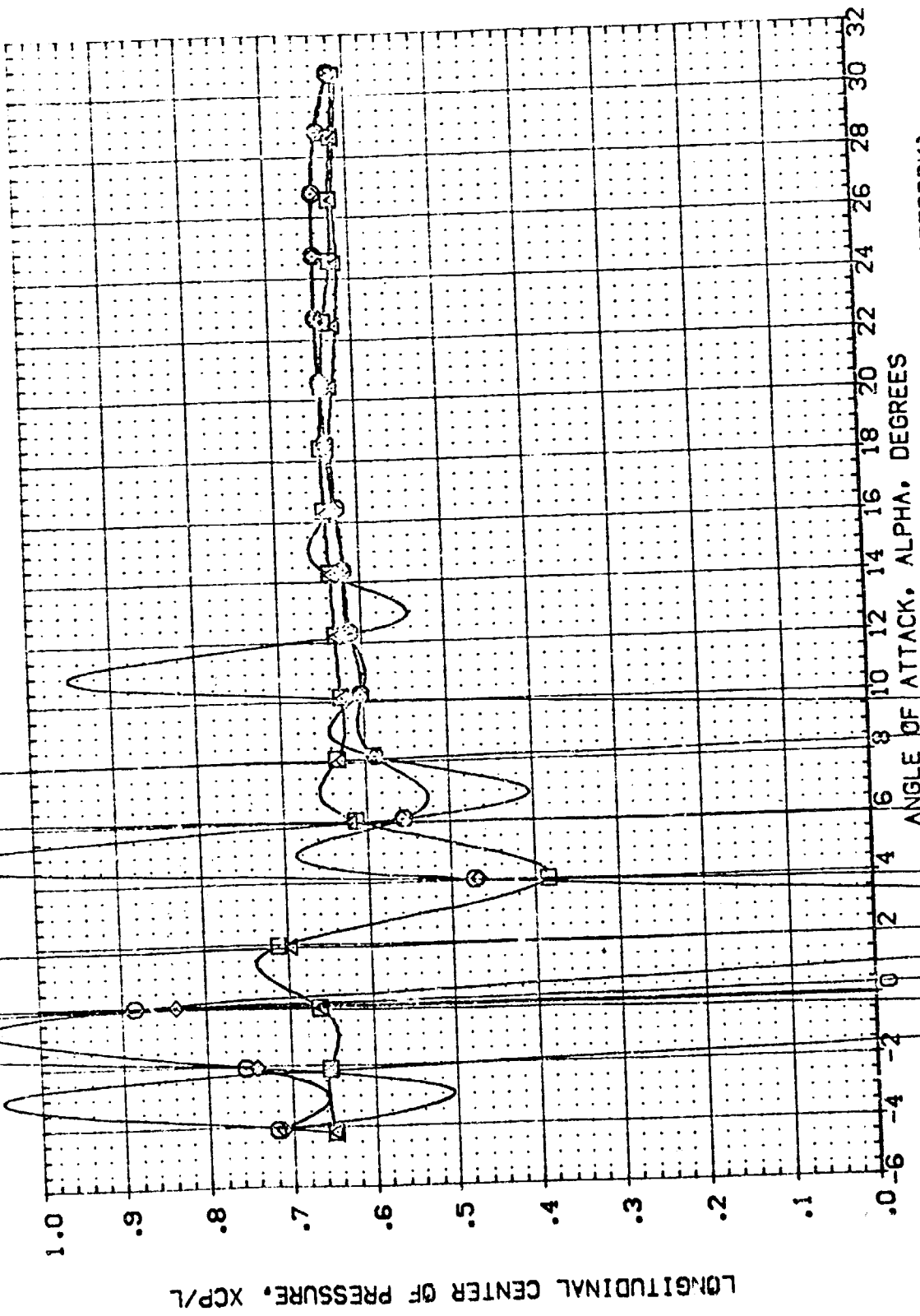


FIGURE 86 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z2 Z3 SPEEDBRK)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP231) CA21B 819C7 M4FS V107E23V7R6Z2
 (EDP232) CA21B 819C7 M4FS V107E23V7R6Z2
 (EDP233) CA21B 819C7 M4FS V107E23V7R6Z2
 (EDP234) CA21B 819C7 M4FS V107E23V7R6Z2

ELEVON AILRON SPEEDBRK SOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2289 INCHES
 BREF 37.9359 INCHES
 XREF 43.5974 INCHES
 YREF 16.0000 INCHES
 ZREF 16.0000 INCHES
 SCALE .0005

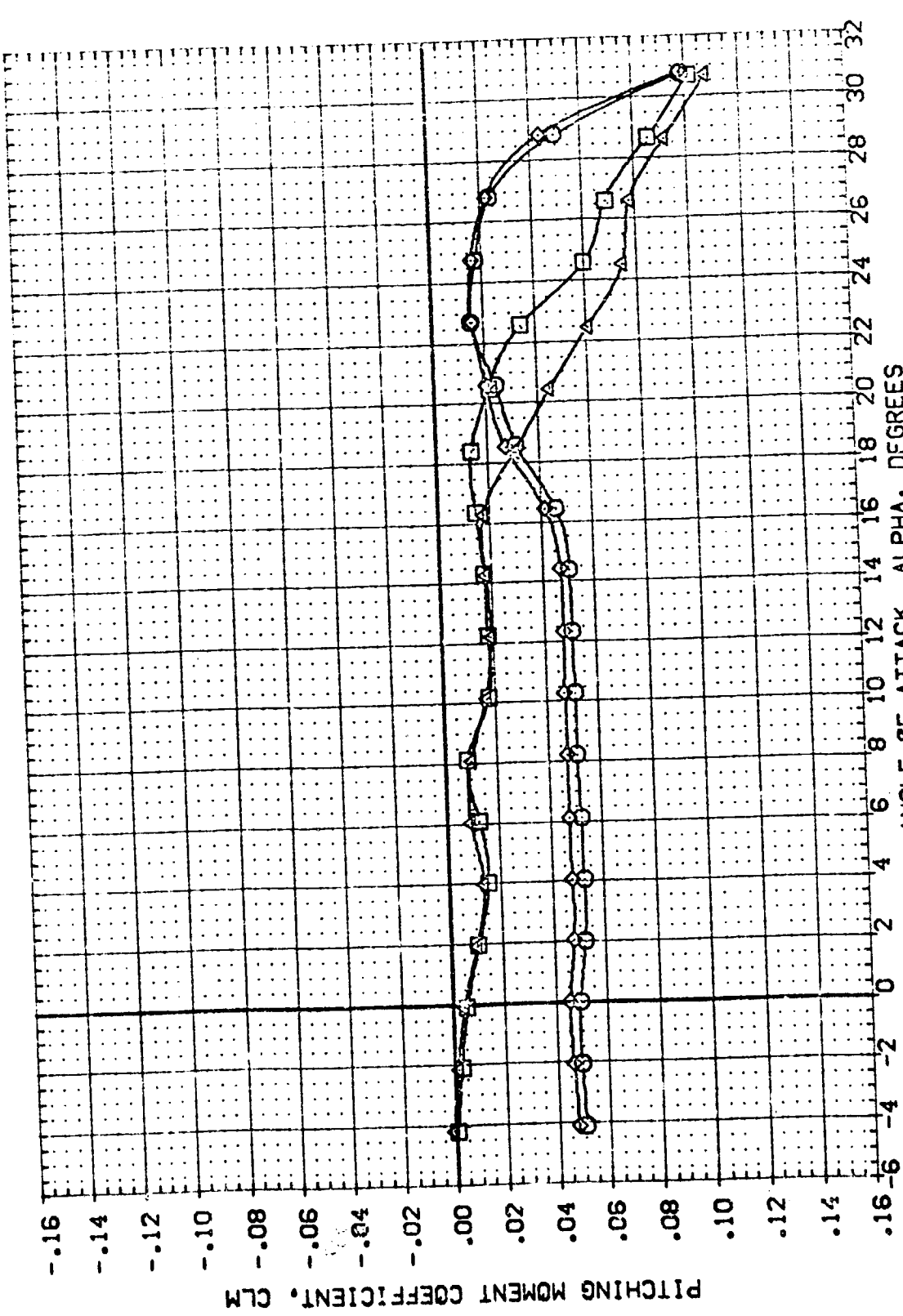


FIGURE 86 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z2 Z3 SPEEDBRK)

(A)MACH = .16

| | | | | | | |
|-----------------|---------------------------------|--------|---------|----------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEEDBRK | BOFLAP | REFERENCE INFORMATION |
| (EDP231) | 0A21B B13C7 M4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | 4.4119 50.FT. |
| (EDP234) | 0A21B B13C7 M4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | 19.2259 INCHES |
| (EDP237) | 0A21B B13C7 M4FS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | 37.9839 INCHES |
| (EDP238) | 0A21B B13C7 M4FS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | 43.0071 INCHES |
| | | | | | | 16.2500 INCHES |
| | | | | | | SCALE .0405 |

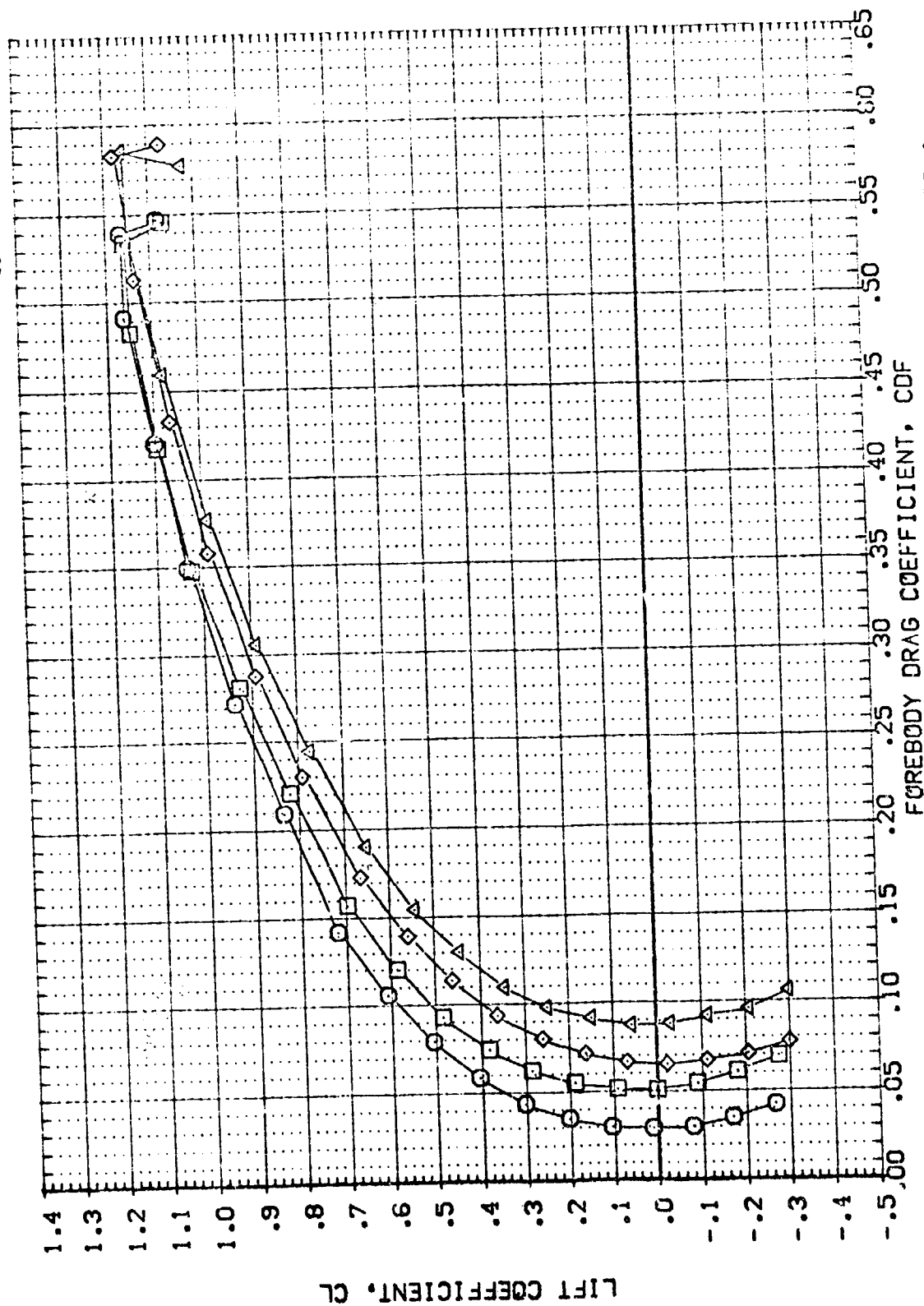


FIGURE 87 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z3 Z4 SPEEDBRK)

(A)MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILRON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|----------------------------|
| (EDP231) | DA218 B1SC7 M4FS V107E23VTRG | .000 | .000 | 25.000 | -18.000 | SSREF 4.4119 SQ.FT. INCHES |
| (EDP234) | DA218 B1SC7 M4FS V107E23VTRG | .000 | .000 | 23.000 | -18.000 | LRREF 19.2239 INCHES |
| (EDP237) | DA218 B1SC7 M4FS V107E23VTRG24 | .000 | .000 | 23.000 | -18.000 | URREF 37.6000 INCHES |
| (EDP238) | DA218 B1SC7 M4FS V107E23VTRG24 | .000 | .000 | 25.000 | -18.000 | XTRF 43.5074 INCHES |
| | | | | | | YTRF 13.0000 INCHES |
| | | | | | | ZTRF 13.0000 INCHES |
| | | | | | | SCALE .0105 |

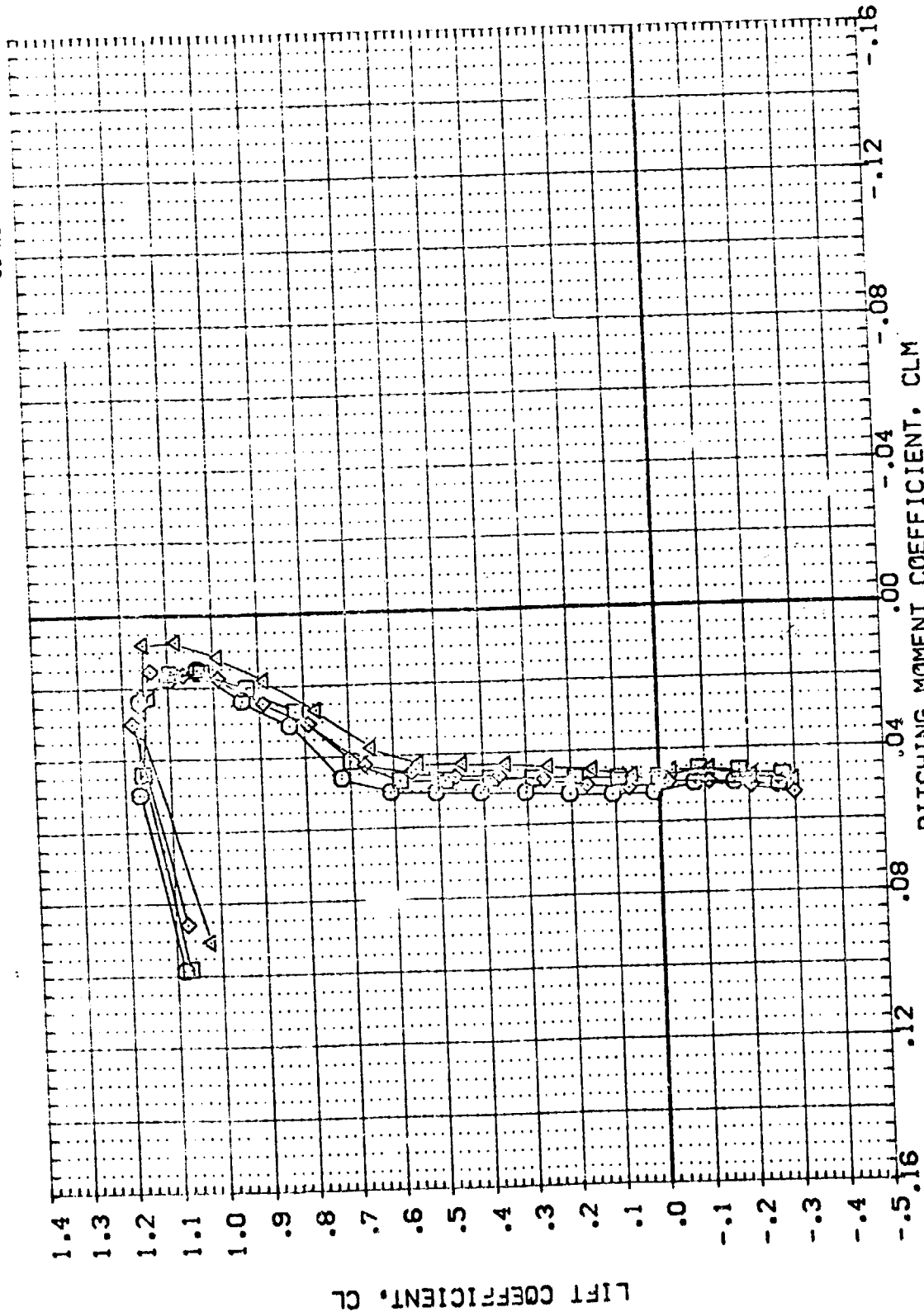


FIGURE 87 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z3 74 SPEEDBRK)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | | | | | |
|---------|-------|-------|------|-------------|----|
| (ED231) | CA218 | B1SC7 | M4FS | V107E23V7R6 | Z3 |
| (ED232) | CA218 | B1SC7 | M4FS | V107E23V7R6 | Z3 |
| (ED233) | CA218 | B1SC7 | M4FS | V107E23V7R6 | Z3 |
| (ED234) | CA218 | B1SC7 | M4FS | V107E23V7R6 | Z3 |

ELEVON AILRON SPEED BRK EOLAP

| | | | |
|------|------|--------|---------|
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |

REFERENCE INFORMATION

| | | |
|-------|---------|--------|
| SREF | 4.4119 | SO.FT. |
| LREF | 19.2009 | INCHES |
| BREF | 37.9339 | INCHES |
| XMRP | 43.0000 | INCHES |
| YMRP | 0.0000 | INCHES |
| ZMRP | 16.2000 | INCHES |
| SCALE | .0400 | SCALE |

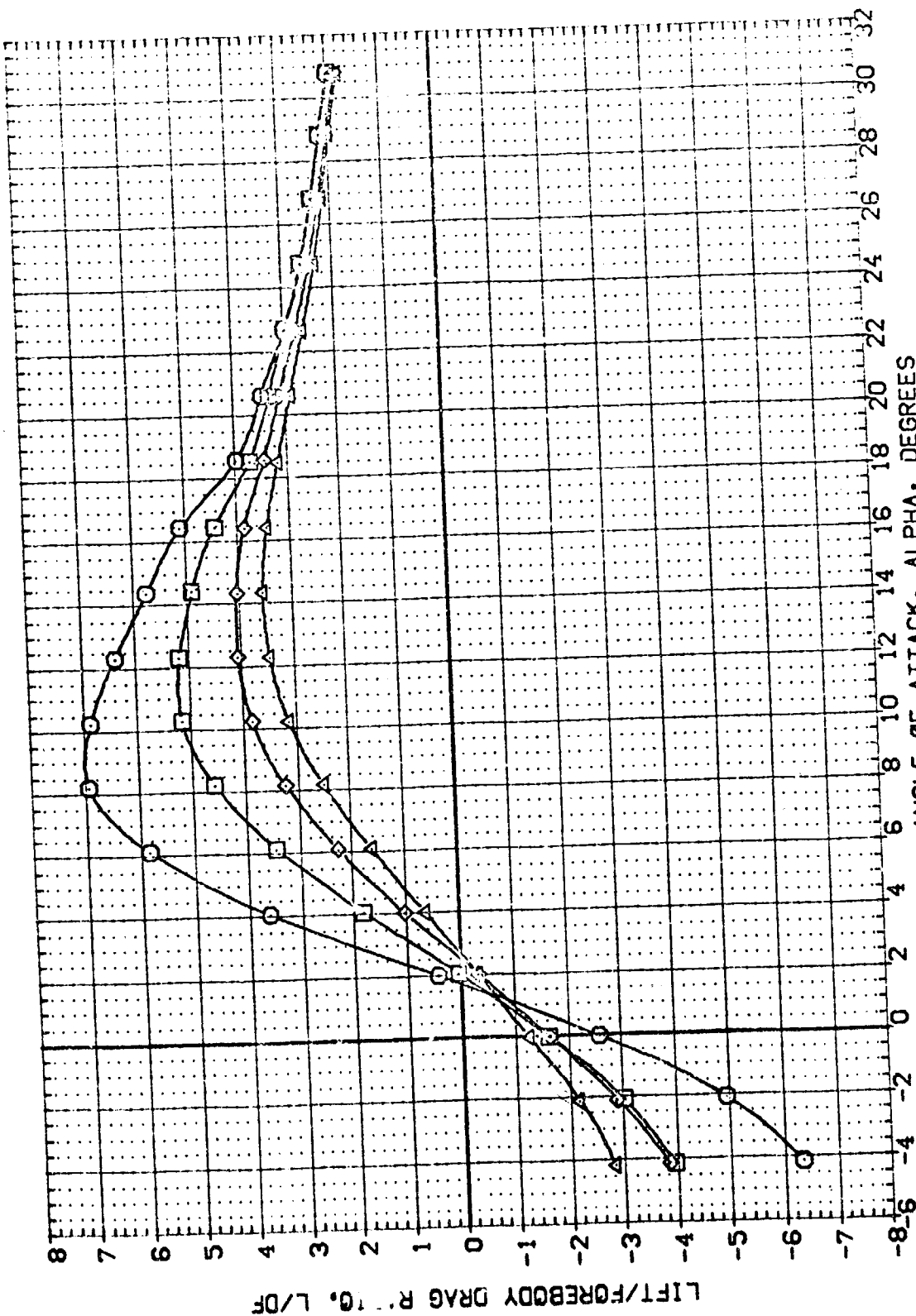


FIGURE 87 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z3 Z4 SPEEDBRK)

CAJMAC H = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP231) 0A218 B19C7 M4F5 V107E23VTR6 Z3
 (EDP232) 0A218 B19C7 M4F5 V107E23VTR6 Z3
 (EDP233) 0A218 B19C7 M4F5 V107E23VTR6 Z3

ELEVON AIRLON SPEEDBRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4113 50.4113
 LREF 19.2093 19.2093
 BREF 37.5533 37.5533
 XREF 43.5574 43.5574
 YREF 10.000 10.000
 ZREF 16.2000 16.2000
 SCALE .0105 .0105

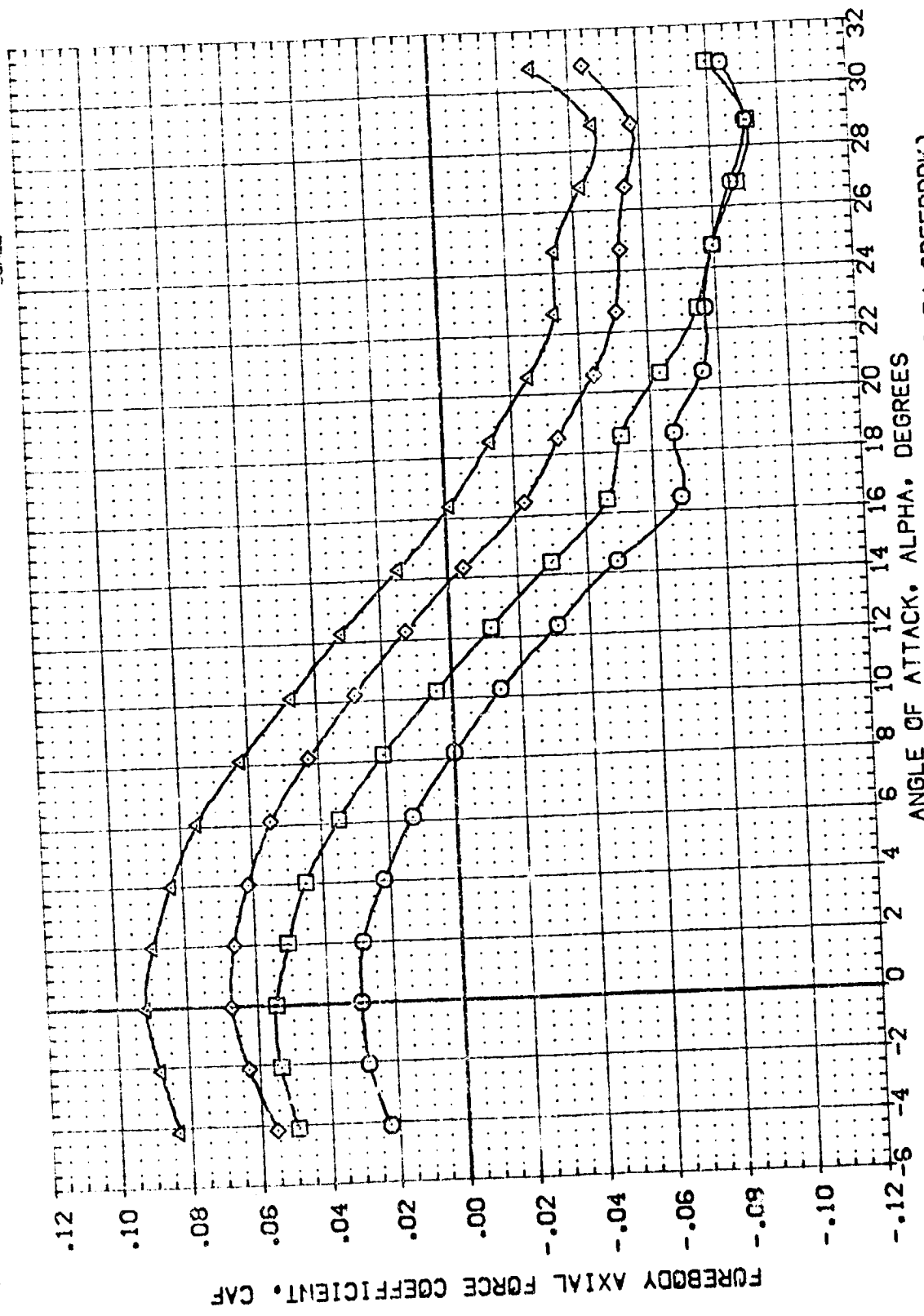


FIGURE 87 CONFIG 1398 SPEED BRAKE EFFECTIVENESS(BASIC Z3 Z4 SPEEDBRK)

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEED BRK | DOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------------|--------|---------|-----------|---------|-----------------------|
| (EDF231) | CA21B B1SC7 M4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 53.17 |
| (EDF234) | CA21B B1SC7 M4FS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | LREF 19.2200 53.17 |
| (EDF237) | CA21B B1SC7 M4FS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | BREF 37.9350 53.17 |
| (EDF233) | CA21B B1SC7 M4FS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | XREF 43.5500 53.17 |
| | | | | | | YREF 16.0000 53.17 |
| | | | | | | ZREF 16.0000 53.17 |
| | | | | | | SCALE .0105 |

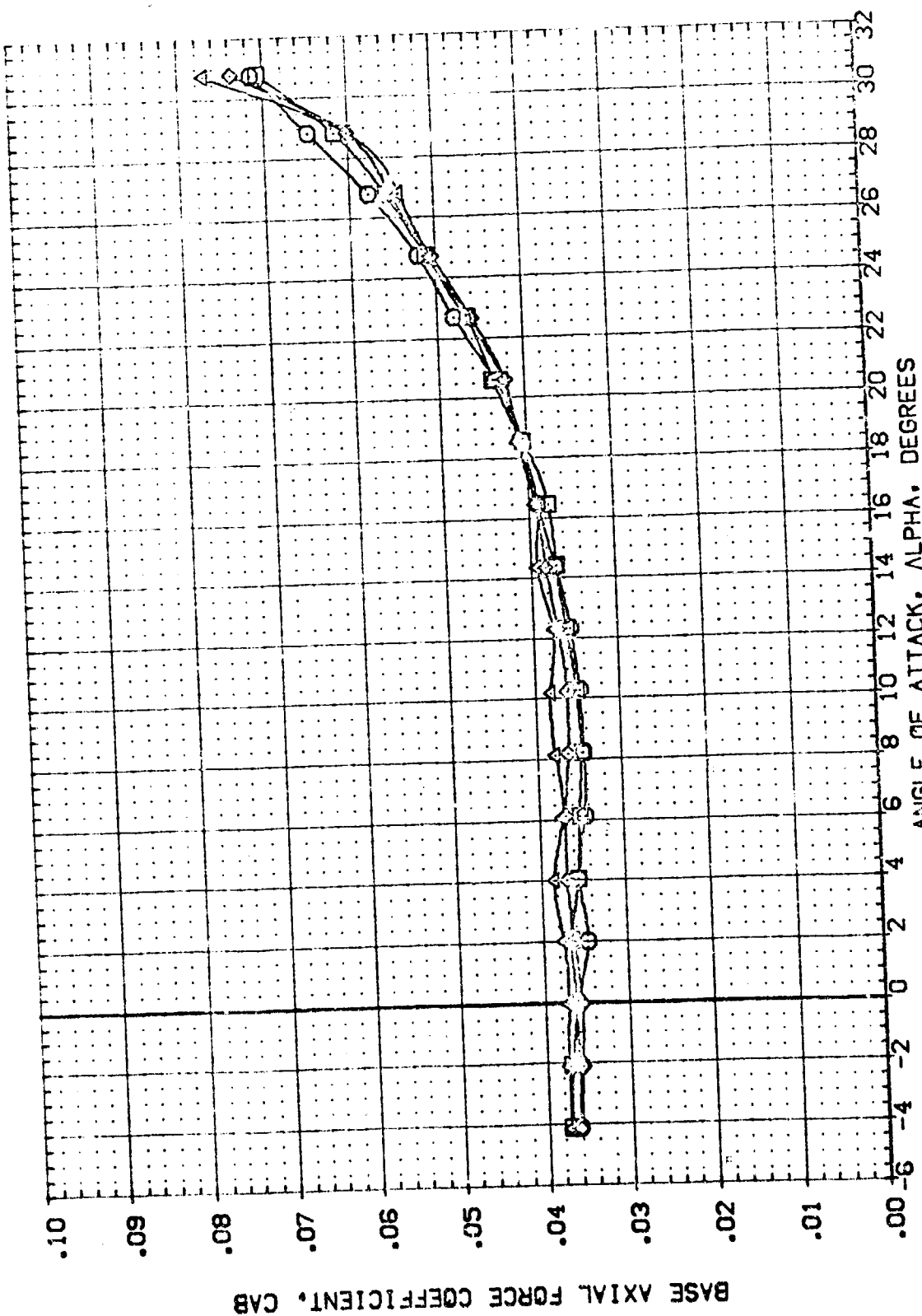


FIGURE 87 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z3 Z4 SPEEDBRK)

CAMACH = .16

| | | | | | | |
|-----------------|---------------------------------|--------|---------|---------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
| (EDP231) | CA21B B19C7 M4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50.000 |
| (EDP234) | CA21B B19C7 M4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | LREF 19.2003 10.000 |
| (EDP237) | CA21B B19C7 M4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | BREF 37.8003 10.000 |
| (EDP238) | CA21B B19C7 M4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | XREF 43.5974 10.000 |
| | | | | | | YREF 16.0000 10.000 |
| | | | | | | ZREF 16.0000 10.000 |
| | | | | | | SCALE 16.0000 10.000 |

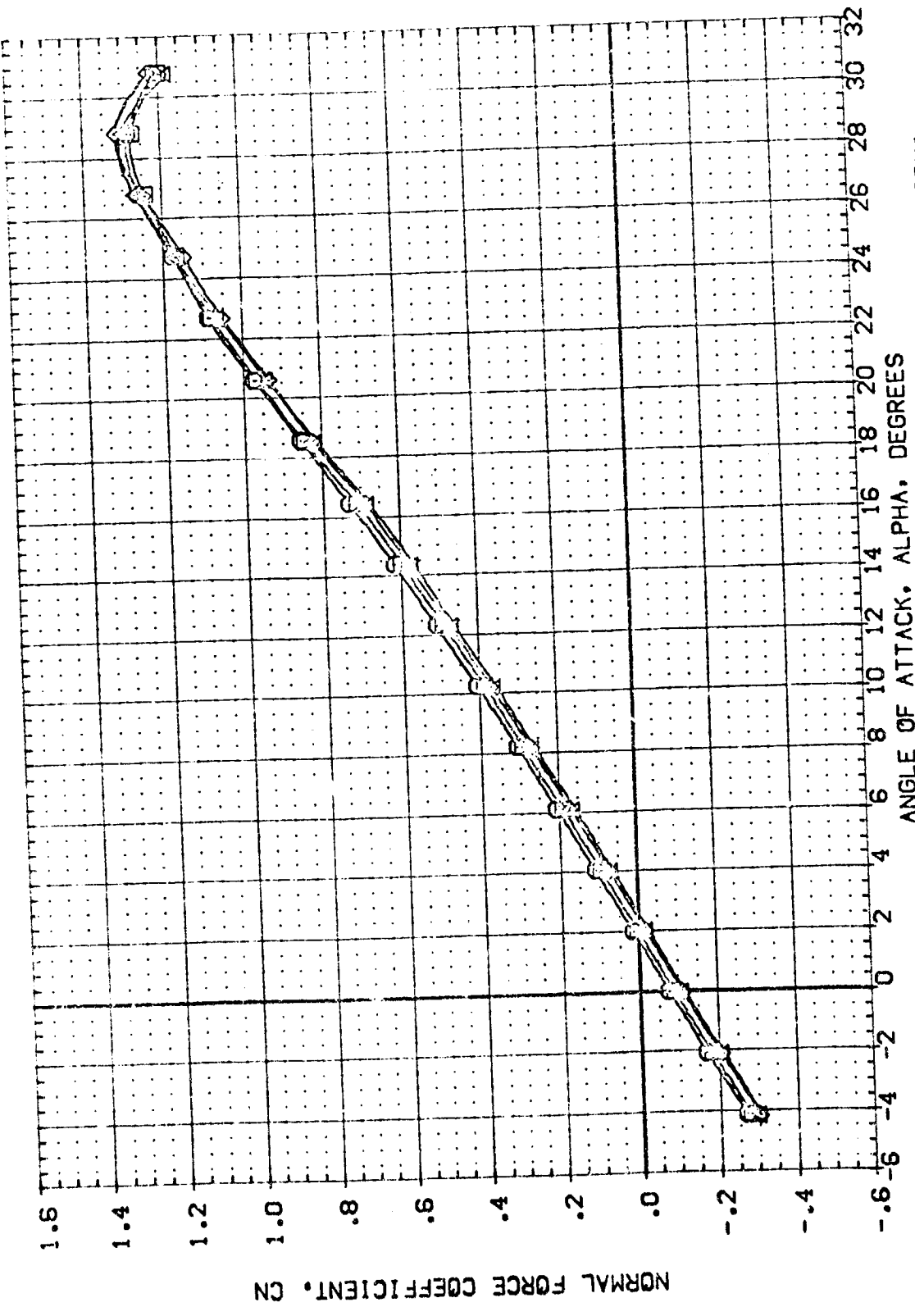


FIGURE 87 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z3 Z4 SPEEDBRK)

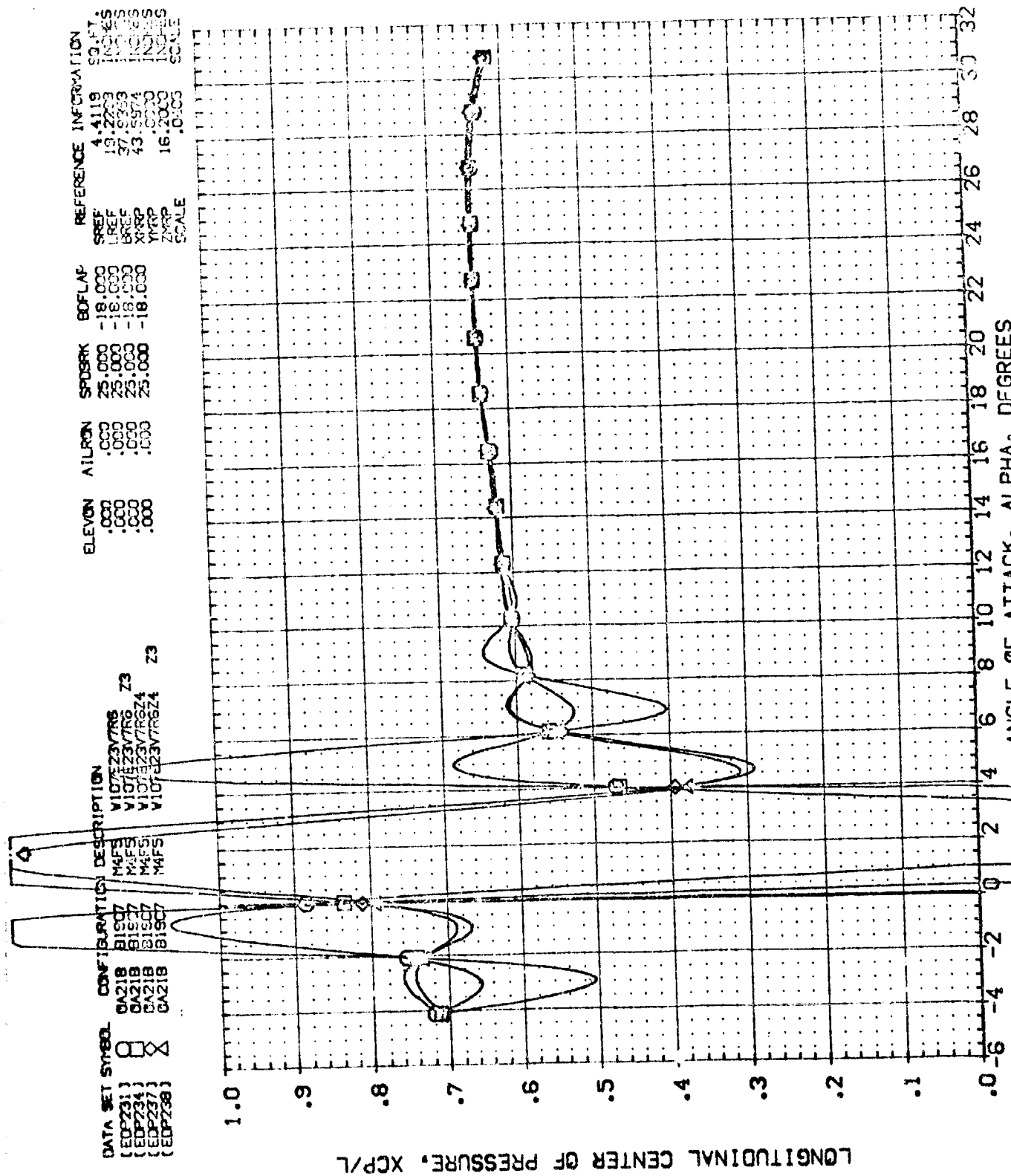


FIGURE 87 CONFIG 1398 SPEED BRAKE EFFECTIVENESS(BASIC Z3 Z4 SPEEDBRK)

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | ELEV | ATLRN | SPDRK | JOFLAP | REFERENCE INFORMATION |
|----------|--------|---------------------------------|------|-------|--------|---------|---------------------------|
| (ED2231) | □ | CA21B 91SC7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. INCHES |
| (ED2232) | □ | CA21B 91SC7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | LREF 19.2333 INCHES |
| (ED2233) | □ | CA21B 91SC7 MAFS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | BRF 37.9338 INCHES |
| (ED2237) | □ | CA21B 91SC7 MAFS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ED2238) | □ | CA21B 91SC7 MAFS V107E23V7R6 Z4 | .000 | .000 | 25.000 | -18.000 | YREF 15.2000 INCHES |
| | | | | | | | ZREF 15.2000 INCHES |
| | | | | | | | SCALE .0405 |

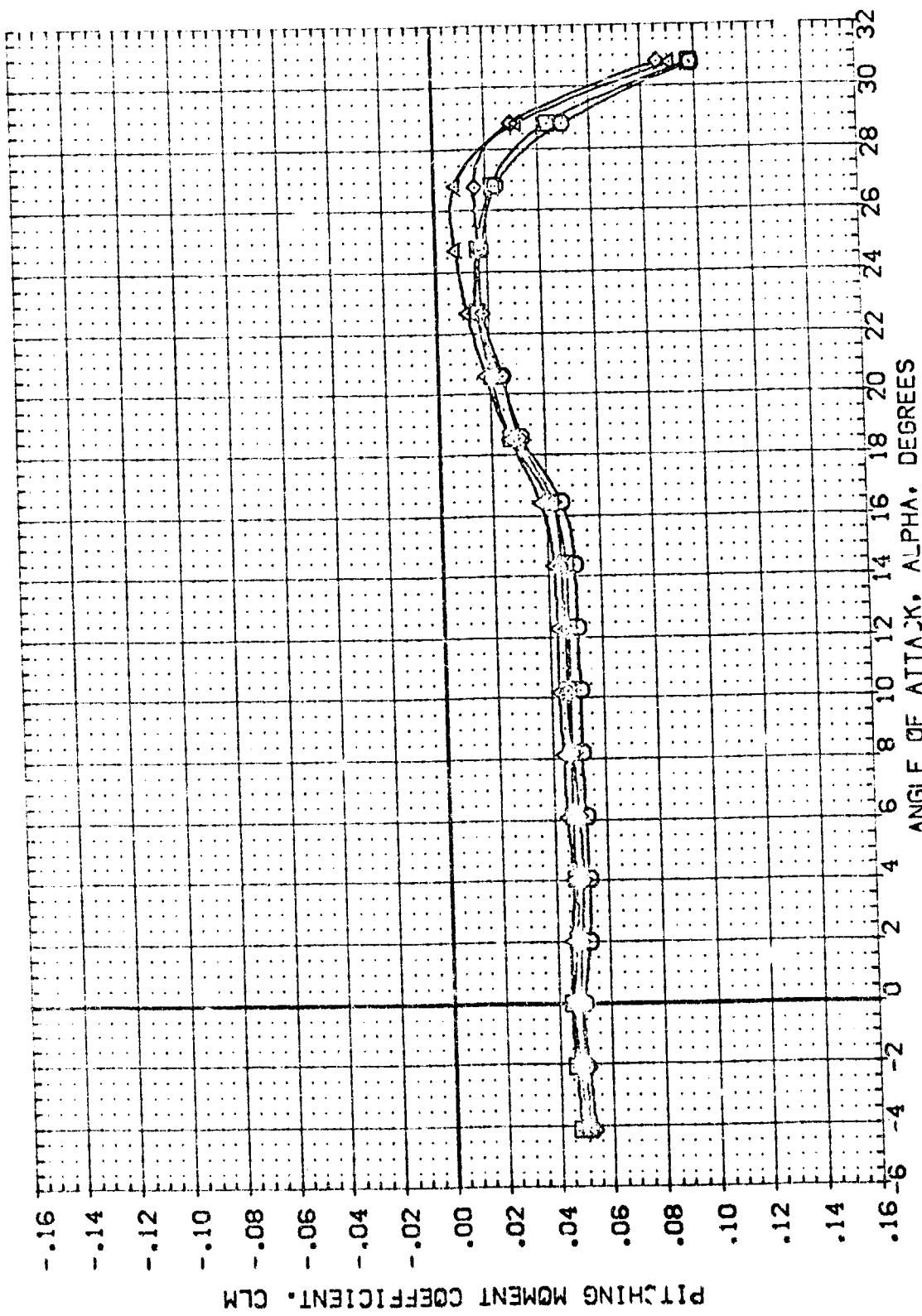


FIGURE 87 CONFIG 139B SPEED BRAKE EFFECTIVENESS(BASIC Z3 Z4 SPEEDBRK)

| | | | |
|--------|--------|--------|---------|
| ELEVON | AIRLIN | SPDRK | SOFLAP |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| 5.000 | .000 | 25.000 | -19.000 |
| 5.000 | .000 | 25.000 | -18.000 |

| DATA SET SYMBOL | CONFIGURATION | DESCRIPTION |
|-----------------|---------------|--------------------|
| [EDP231] | (A218 B19C7 | M4F5 V107E23V7R6 |
| [EDP232] | (A218 B19C7 | M4F5 V107E23V7R6Z2 |
| [EDP243] | (A218 B19C7 | M4F5 V107E23V7R6 |
| [EDP241] | (A218 B19C7 | M4F5 V107E23V7R6Z2 |

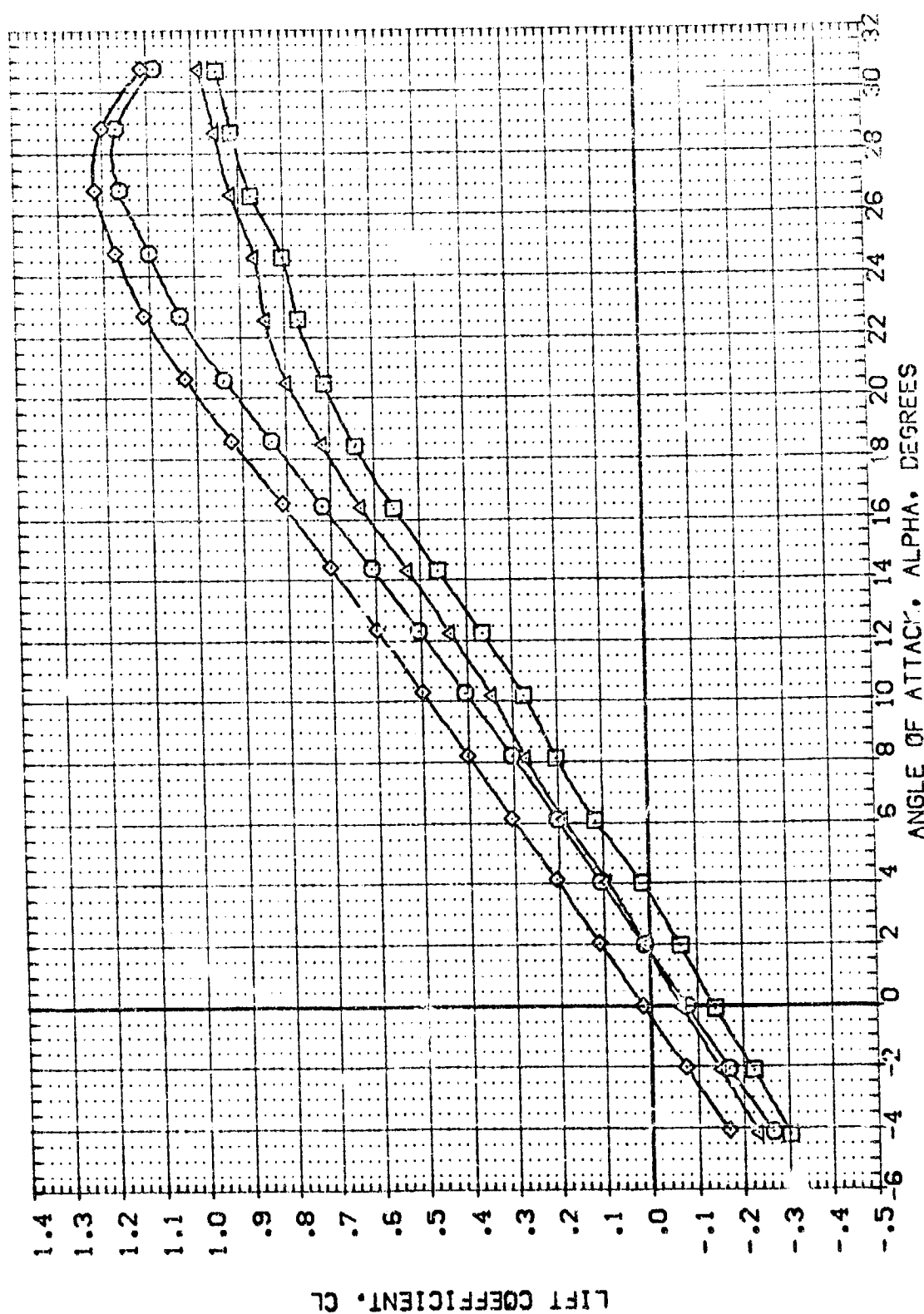


FIGURE 88 CONFIG 1398 Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

$$[A]_{MACH} = .16$$

| DATA SET | Symbol | CONFIGURATION | DESCRIPTION |
|------------|--------|---------------|-------------|
| 1 (EP201) | Q 218 | 81x27 | 1955 |
| 2 (EP202) | Q 218 | 81x27 | 1956 |
| 3 (EP203) | Q 218 | 81x27 | 1957 |
| 4 (EP204) | Q 218 | 81x27 | 1958 |
| 5 (EP205) | Q 218 | 81x27 | 1959 |
| 6 (EP206) | Q 218 | 81x27 | 1960 |
| 7 (EP207) | Q 218 | 81x27 | 1961 |
| 8 (EP208) | Q 218 | 81x27 | 1962 |
| 9 (EP209) | Q 218 | 81x27 | 1963 |
| 10 (EP210) | Q 218 | 81x27 | 1964 |
| 11 (EP211) | Q 218 | 81x27 | 1965 |
| 12 (EP212) | Q 218 | 81x27 | 1966 |
| 13 (EP213) | Q 218 | 81x27 | 1967 |
| 14 (EP214) | Q 218 | 81x27 | 1968 |
| 15 (EP215) | Q 218 | 81x27 | 1969 |
| 16 (EP216) | Q 218 | 81x27 | 1970 |
| 17 (EP217) | Q 218 | 81x27 | 1971 |
| 18 (EP218) | Q 218 | 81x27 | 1972 |
| 19 (EP219) | Q 218 | 81x27 | 1973 |
| 20 (EP220) | Q 218 | 81x27 | 1974 |
| 21 (EP221) | Q 218 | 81x27 | 1975 |
| 22 (EP222) | Q 218 | 81x27 | 1976 |
| 23 (EP223) | Q 218 | 81x27 | 1977 |
| 24 (EP224) | Q 218 | 81x27 | 1978 |
| 25 (EP225) | Q 218 | 81x27 | 1979 |
| 26 (EP226) | Q 218 | 81x27 | 1980 |
| 27 (EP227) | Q 218 | 81x27 | 1981 |
| 28 (EP228) | Q 218 | 81x27 | 1982 |
| 29 (EP229) | Q 218 | 81x27 | 1983 |
| 30 (EP230) | Q 218 | 81x27 | 1984 |
| 31 (EP231) | Q 218 | 81x27 | 1985 |
| 32 (EP232) | Q 218 | 81x27 | 1986 |
| 33 (EP233) | Q 218 | 81x27 | 1987 |
| 34 (EP234) | Q 218 | 81x27 | 1988 |
| 35 (EP235) | Q 218 | 81x27 | 1989 |
| 36 (EP236) | Q 218 | 81x27 | 1990 |
| 37 (EP237) | Q 218 | 81x27 | 1991 |
| 38 (EP238) | Q 218 | 81x27 | 1992 |
| 39 (EP239) | Q 218 | 81x27 | 1993 |
| 40 (EP240) | Q 218 | 81x27 | 1994 |
| 41 (EP241) | Q 218 | 81x27 | 1995 |
| 42 (EP242) | Q 218 | 81x27 | 1996 |
| 43 (EP243) | Q 218 | 81x27 | 1997 |
| 44 (EP244) | Q 218 | 81x27 | 1998 |
| 45 (EP245) | Q 218 | 81x27 | 1999 |
| 46 (EP246) | Q 218 | 81x27 | 2000 |
| 47 (EP247) | Q 218 | 81x27 | 2001 |
| 48 (EP248) | Q 218 | 81x27 | 2002 |
| 49 (EP249) | Q 218 | 81x27 | 2003 |
| 50 (EP250) | Q 218 | 81x27 | 2004 |
| 51 (EP251) | Q 218 | 81x27 | 2005 |
| 52 (EP252) | Q 218 | 81x27 | 2006 |
| 53 (EP253) | Q 218 | 81x27 | 2007 |
| 54 (EP254) | Q 218 | 81x27 | 2008 |
| 55 (EP255) | Q 218 | 81x27 | 2009 |
| 56 (EP256) | Q 218 | 81x27 | 2010 |
| 57 (EP257) | Q 218 | 81x27 | 2011 |
| 58 (EP258) | Q 218 | 81x27 | 2012 |
| 59 (EP259) | Q 218 | 81x27 | 2013 |
| 60 (EP260) | Q 218 | 81x27 | 2014 |
| 61 (EP261) | Q 218 | 81x27 | 2015 |
| 62 (EP262) | Q 218 | 81x27 | 2016 |
| 63 (EP263) | Q 218 | 81x27 | 2017 |
| 64 (EP264) | Q 218 | 81x27 | 2018 |
| 65 (EP265) | Q 218 | 81x27 | 2019 |
| 66 (EP266) | Q 218 | 81x27 | 2020 |
| 67 (EP267) | Q 218 | 81x27 | 2021 |
| 68 (EP268) | Q 218 | 81x27 | 2022 |
| 69 (EP269) | Q 218 | 81x27 | 2023 |
| 70 (EP270) | Q 218 | 81x27 | 2024 |
| 71 (EP271) | Q 218 | 81x27 | 2025 |
| 72 (EP272) | Q 218 | 81x27 | 2026 |
| 73 (EP273) | Q 218 | 81x27 | 2027 |
| 74 (EP274) | Q 218 | 81x27 | 2028 |
| 75 (EP275) | Q 218 | 81x27 | 2029 |
| 76 (EP276) | Q 218 | 81x27 | 2030 |
| 77 (EP277) | Q 218 | 81x27 | 2031 |
| 78 (EP278) | Q 218 | 81x27 | 2032 |

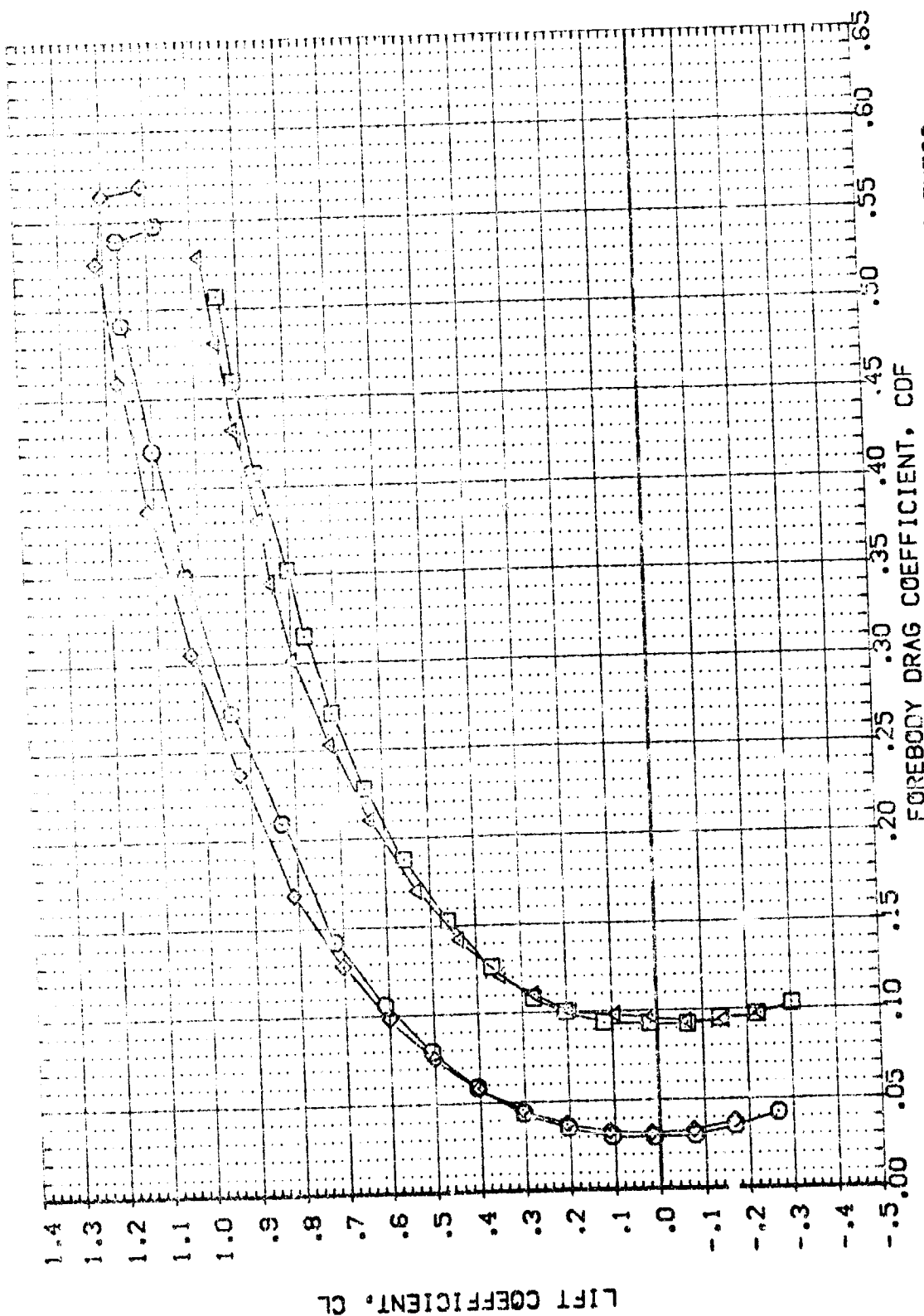


FIGURE 88 CONFIG 139B Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

$$[A]_{MACH} = .16$$

DATA SET SYMOL CONFIGURATION DESCRIPTION

| DATA SET SYMOL | CONFIGURATION DESCRIPTION |
|----------------|--------------------------------|
| (EDP231) | 0A218 B19C7 MAFS V107E23V/R6 |
| (EDP232) | 0A218 B19C7 MAFS V107E23V/R6Z2 |
| (EDP233) | 0A218 B19C7 MAFS V107E23V/R6 |
| (EDP241) | 0A218 B19C7 MAFS V107E23V/R6Z2 |

REFERENCE INFORMATION

| REFERENCE INFORMATION | SCALE |
|-----------------------|--------|
| SREF | 18.000 |
| LREF | 18.000 |
| PRF | 18.000 |
| XPREF | 18.000 |
| YREF | 18.000 |
| ZREF | 18.000 |
| SCALE | 18.000 |

ELEVON AILRON SPOBRK BOFLAP

| ELEVON | AILRON | SPOBRK | BOFLAP |
|--------|--------|--------|---------|
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |

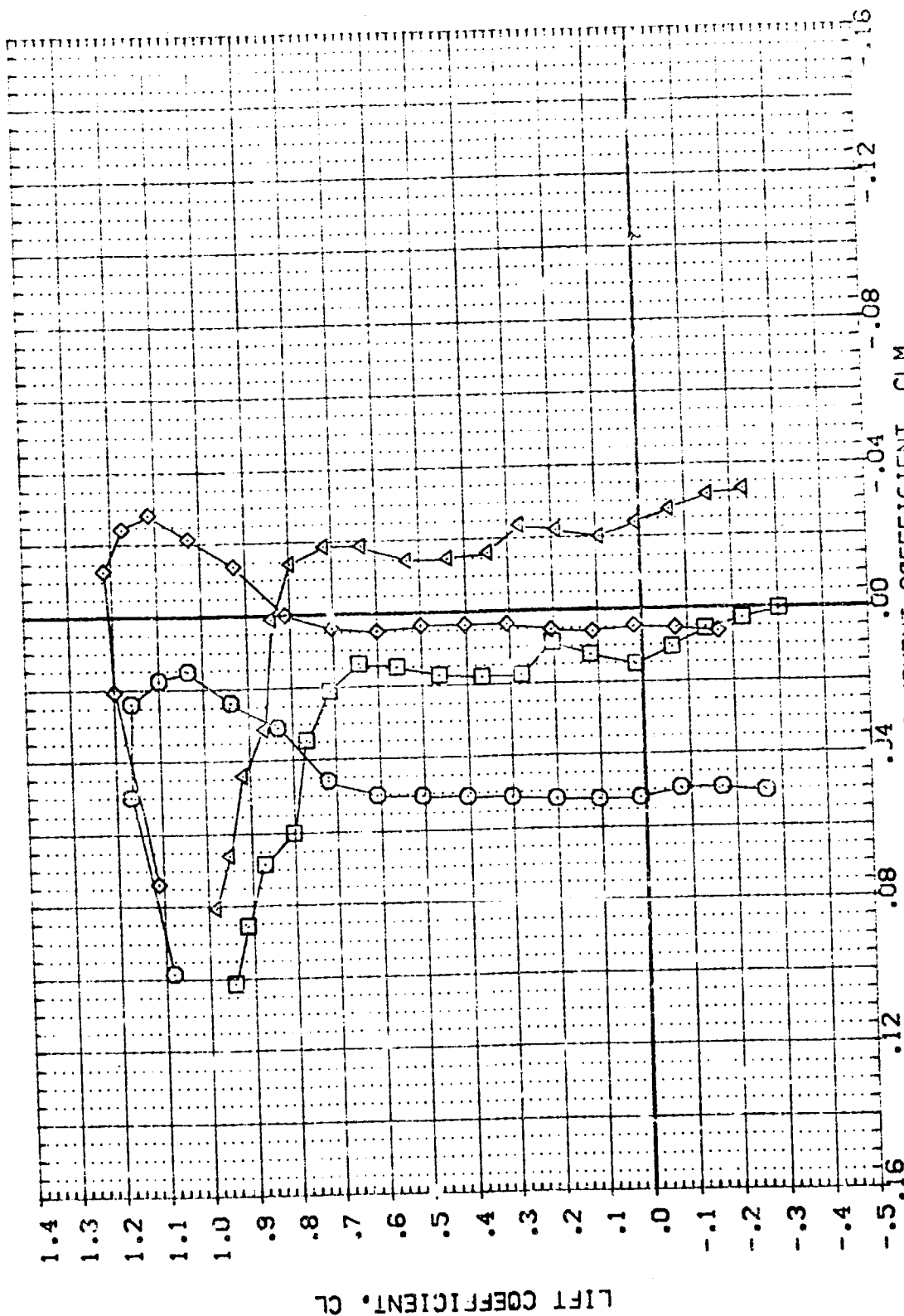


FIGURE 88 CONFIG 1398 Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILRON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (EDP231) | 0A21B 819C7 MAFS V107E23V7R6 | .000 | .000 | 29.000 | -18.000 | SREF 4.4119 30.000 |
| (EDP232) | 0A21B 819C7 MAFS V107E23V7R6Z2 | .000 | .000 | 29.000 | -18.000 | LREF 19.2293 19.000 |
| (EDP233) | 0A21B 819C7 MAFS V107E23V7R6 | 5.000 | .000 | 29.000 | -18.000 | SREF 37.5009 19.000 |
| (EDP241) | 0A21B 819C7 MAFS V107E23V7R6Z2 | 5.000 | .000 | 29.000 | -18.000 | LREF 43.5009 19.000 |
| | | | | | | YREF 16.0000 16.000 |
| | | | | | | ZREF 16.0000 16.000 |
| | | | | | | SCALE .0765 |

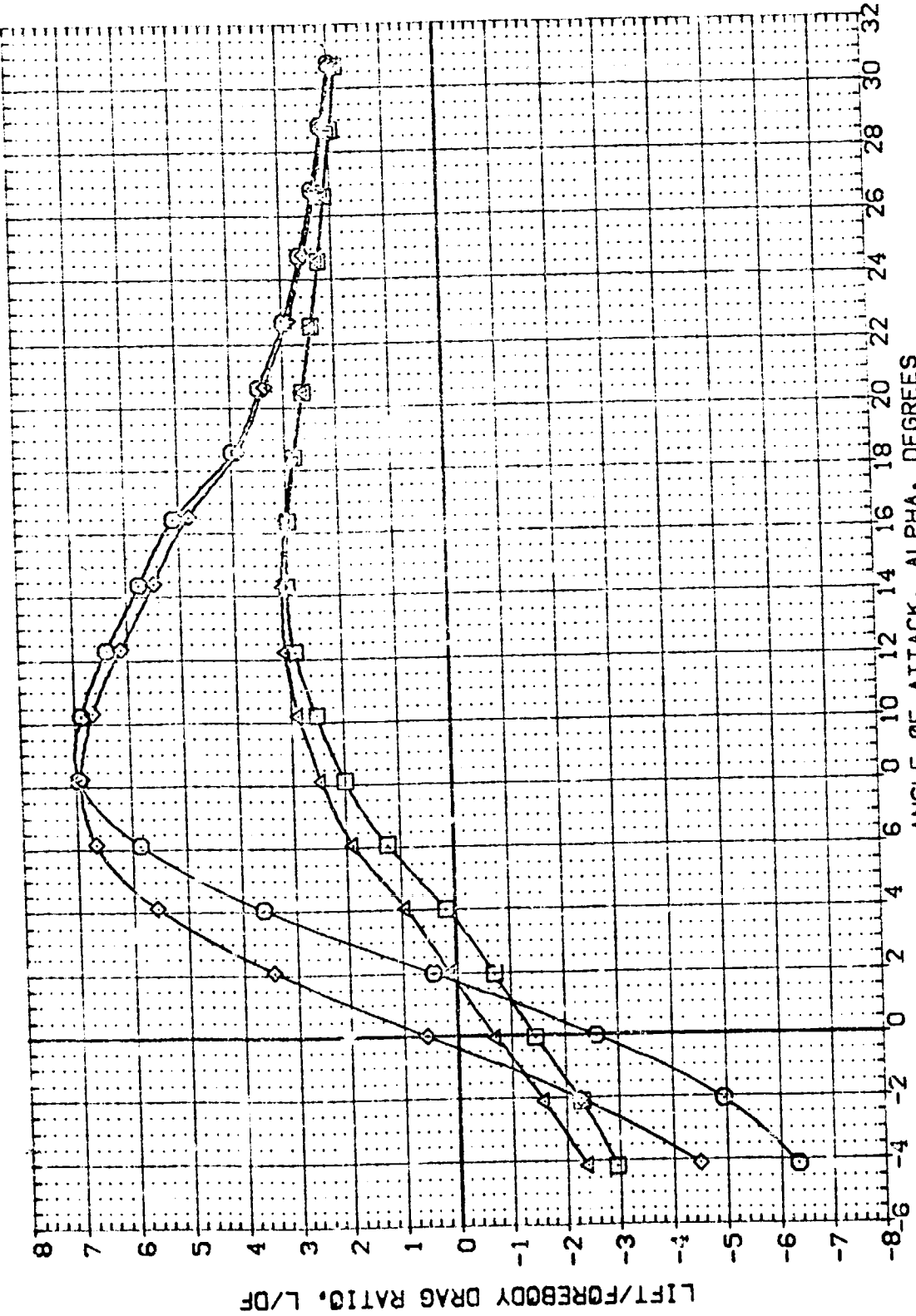


FIGURE 88 CONFIG 139B Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

| | | | | | | | |
|-----------------|--------------------------------|--------|---------|----------|---------|-----------------------|--------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEEDBRK | SOFLAP | REFERENCE INFORMATION | 50.FT. |
| (EDF231) | 0A218 B1SC7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 | NOISES |
| (EDF232) | 0A218 B1SC7 M4FS V107E23V7R6Z2 | .000 | .000 | 25.000 | -18.000 | LREF 19.7239 | NOISES |
| (EDF243) | 0A218 B1SC7 M4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | BRF 37.6239 | NOISES |
| (EDF241) | 0A218 B1SC7 M4FS V107E23V7R6Z2 | 5.000 | .000 | 25.000 | -18.000 | XRFP 43.1000 | NOISES |
| | | | | | | YMRP 16.2033 | NOISES |
| | | | | | | SCALE .0405 | SCALE |

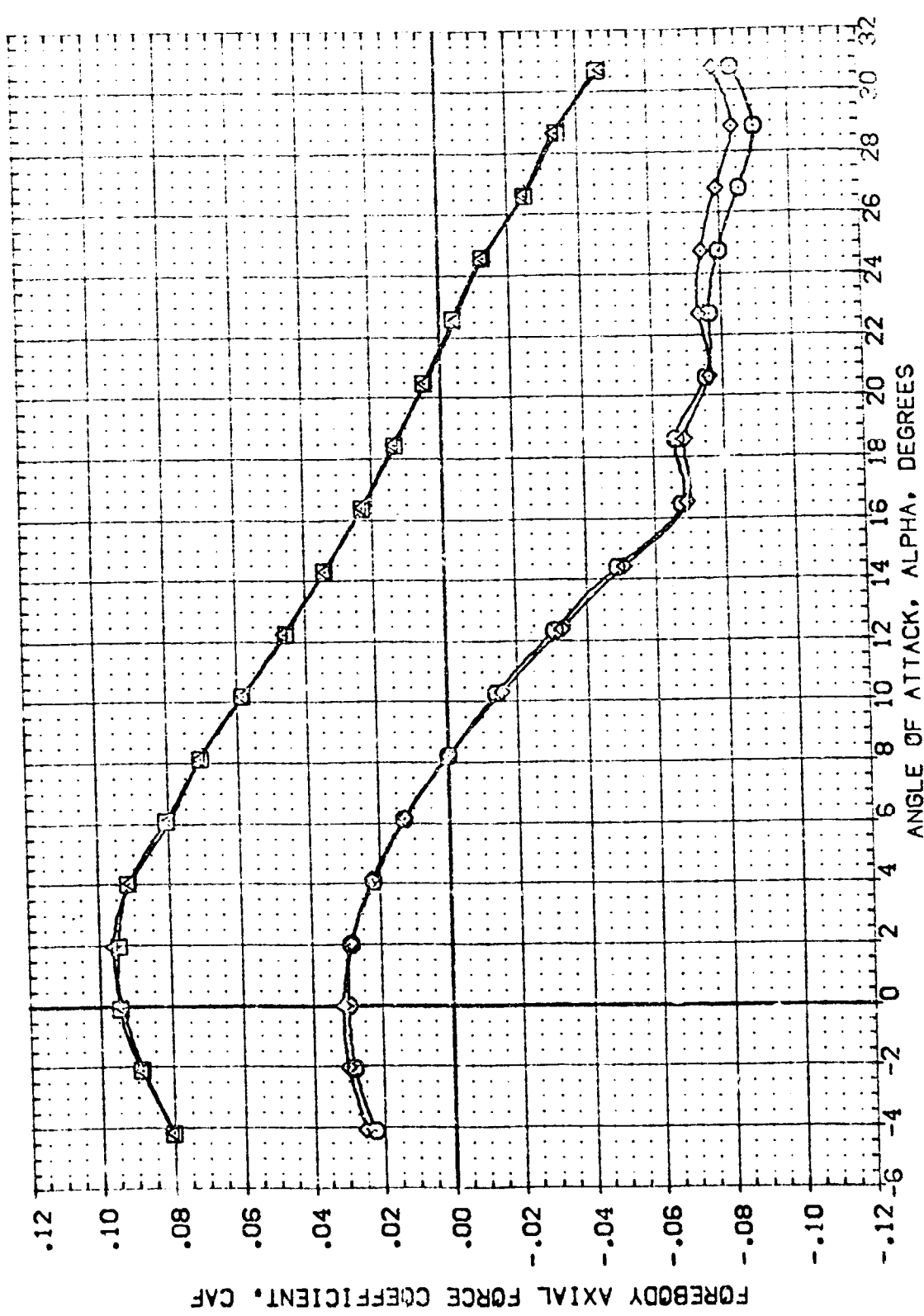


FIGURE 88 CONFIG 139B Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A) MACH = .16

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| REFERENCE INFORMATION | |
|-----------------------|---------|
| SREF | 1.4118 |
| LREF | 19.2258 |
| GRF | 37.5333 |
| YREF | 43.5874 |
| ZREF | 0.0000 |
| SCALE | 16.2000 |
| SCALE | .0405 |

| ELEVON | AILRON | SPDRX | EDFLAP |
|--------|--------|--------|---------|
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |

| DATA SET SYMBOL | CONFIGURATION | DESCRIPTION |
|-----------------|---------------|------------------|
| EDP231 | 0A21B 019C7 | M4F5 V107E23V7R5 |
| EDP232 | 0A21B 019C7 | M4F5 V107E23V7R6 |
| EDP243 | 0A21B 019C7 | M4F5 V107E23V7R6 |
| EDP241 | 0A21B 019C7 | M4F5 V107E23V7R6 |

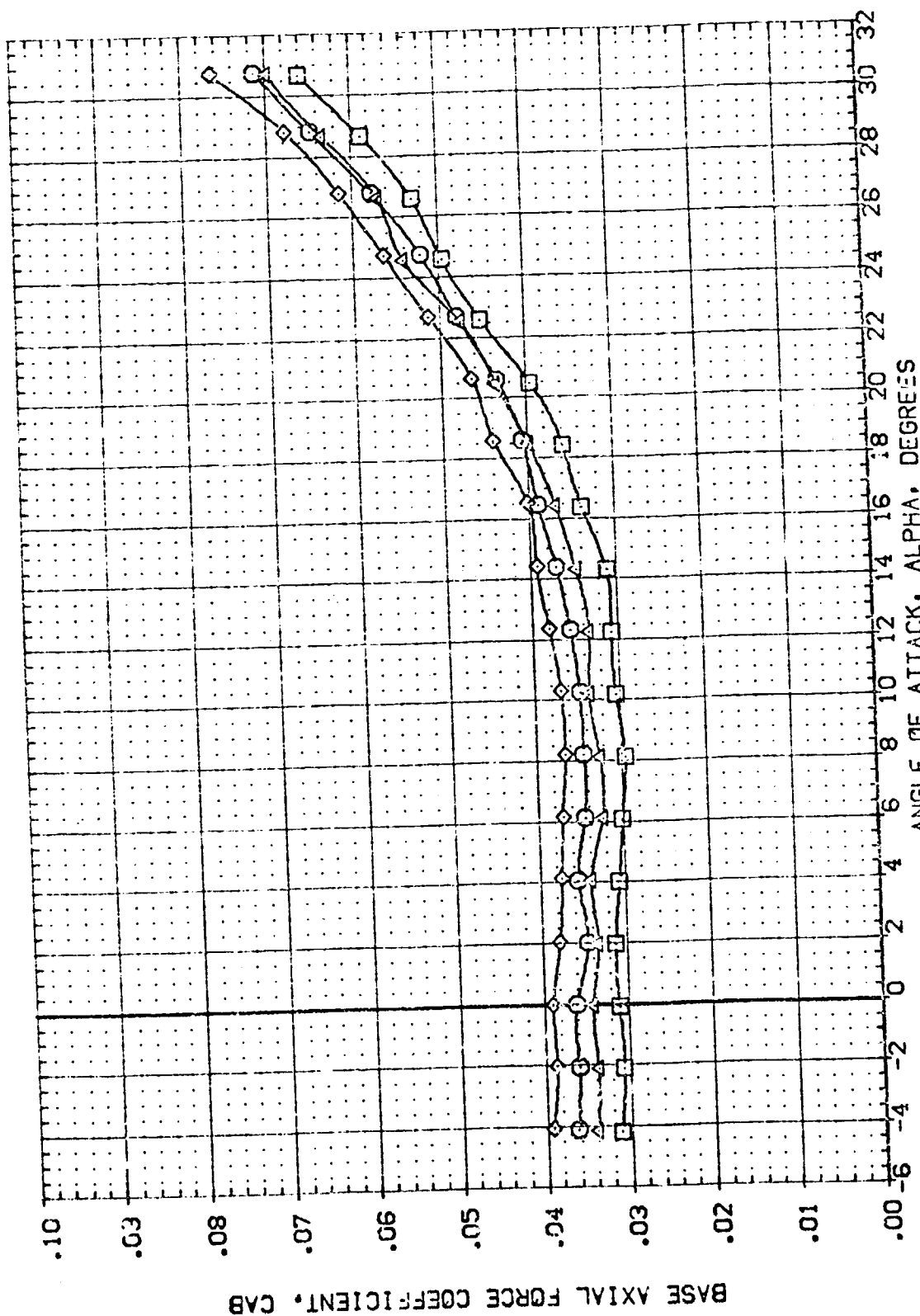


FIGURE 88 CONFIG 1398 Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILRON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (EDP231) | 0A21B 919C7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP232) | 0A21B B19C7 M4FS V107E23V7R6Z2 | .000 | .000 | 25.000 | -18.000 | LREF 19.2009 NO.FS |
| (EDP243) | 0A21B B19C7 M4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | BREF 37.9303 NO.FS |
| (EDP241) | 0A21B B19C7 M4FS V107E23V7R6Z2 | 5.000 | .000 | 25.000 | -18.000 | YMPP 43.5974 NO.FS |
| | | | | | | ZMPP .0000 NO.FS |
| | | | | | | SCALE 16.2000 NO.FS |
| | | | | | | SCALE .0405 |

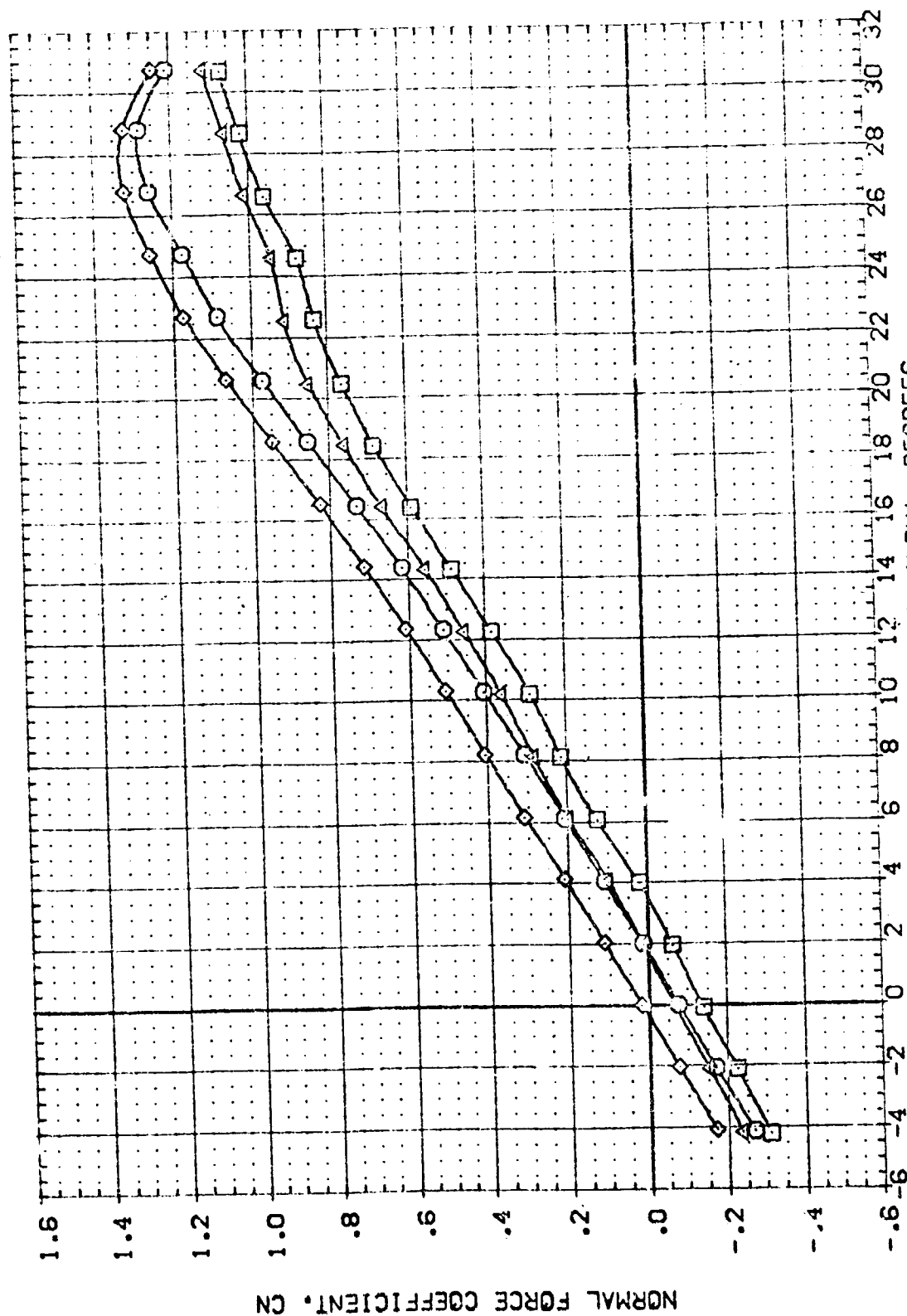


FIGURE 88 CONFIG 139B Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

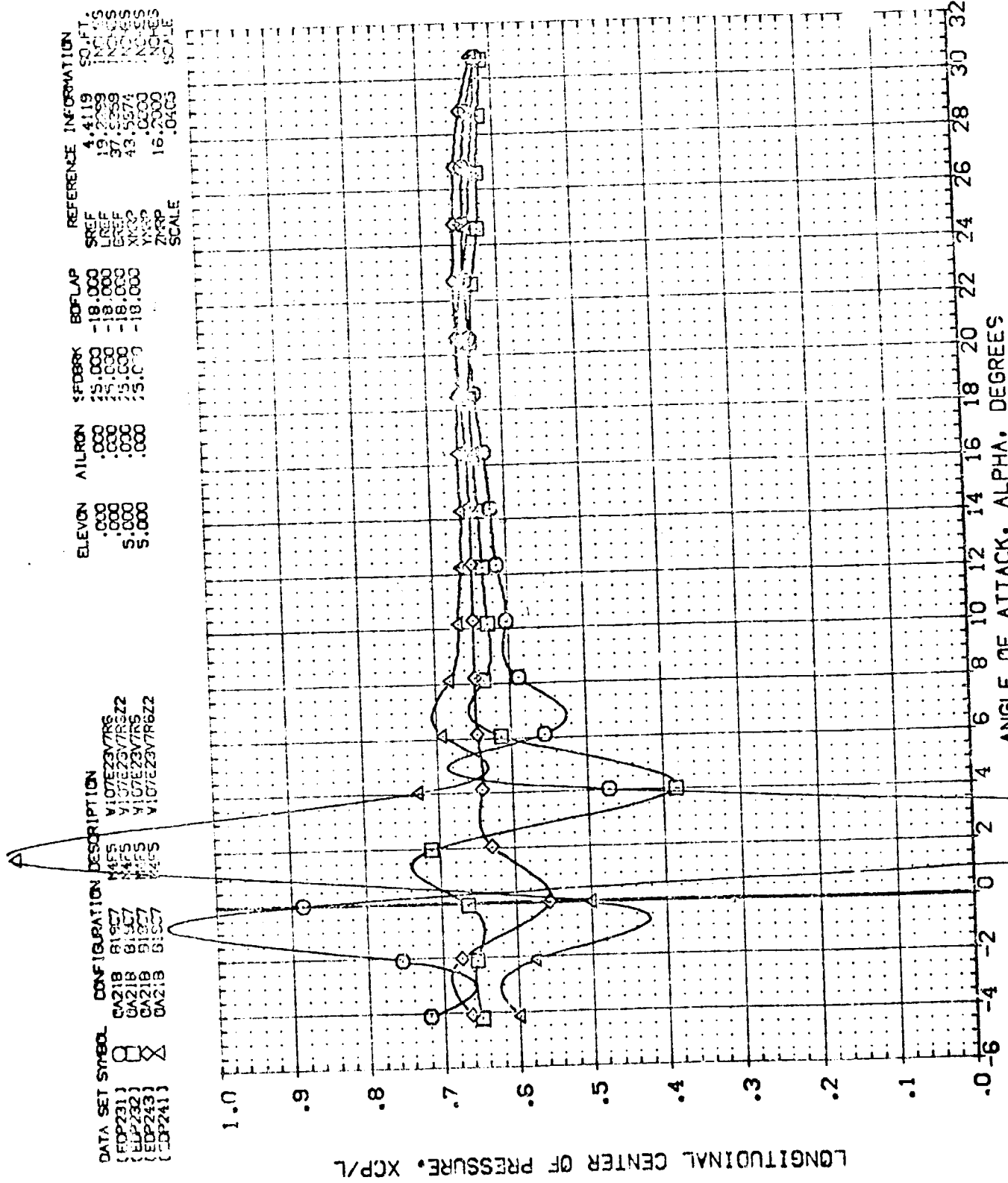


FIGURE 88 CONFIG 139B Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

CAJMACH = .1E

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| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILRON | SPDRBK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (EDP231) | 0A21B B19C7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 |
| (EDP232) | 0A21B B19C7 M4FS V107E23V7R6Z2 | .000 | .000 | 25.000 | -18.000 | LREF 19.2729 |
| (EDP243) | 0A21B B19C7 M4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | SREF 37.9359 |
| (EDP241) | 0A21B B19C7 M4FS V107E23V7R6Z2 | 5.000 | .000 | 25.000 | -18.000 | XREF 43.5574 |
| | | | | | | YREF 0.0000 |
| | | | | | | ZREF 15.2000 |
| | | | | | | SCALE 0.005 |

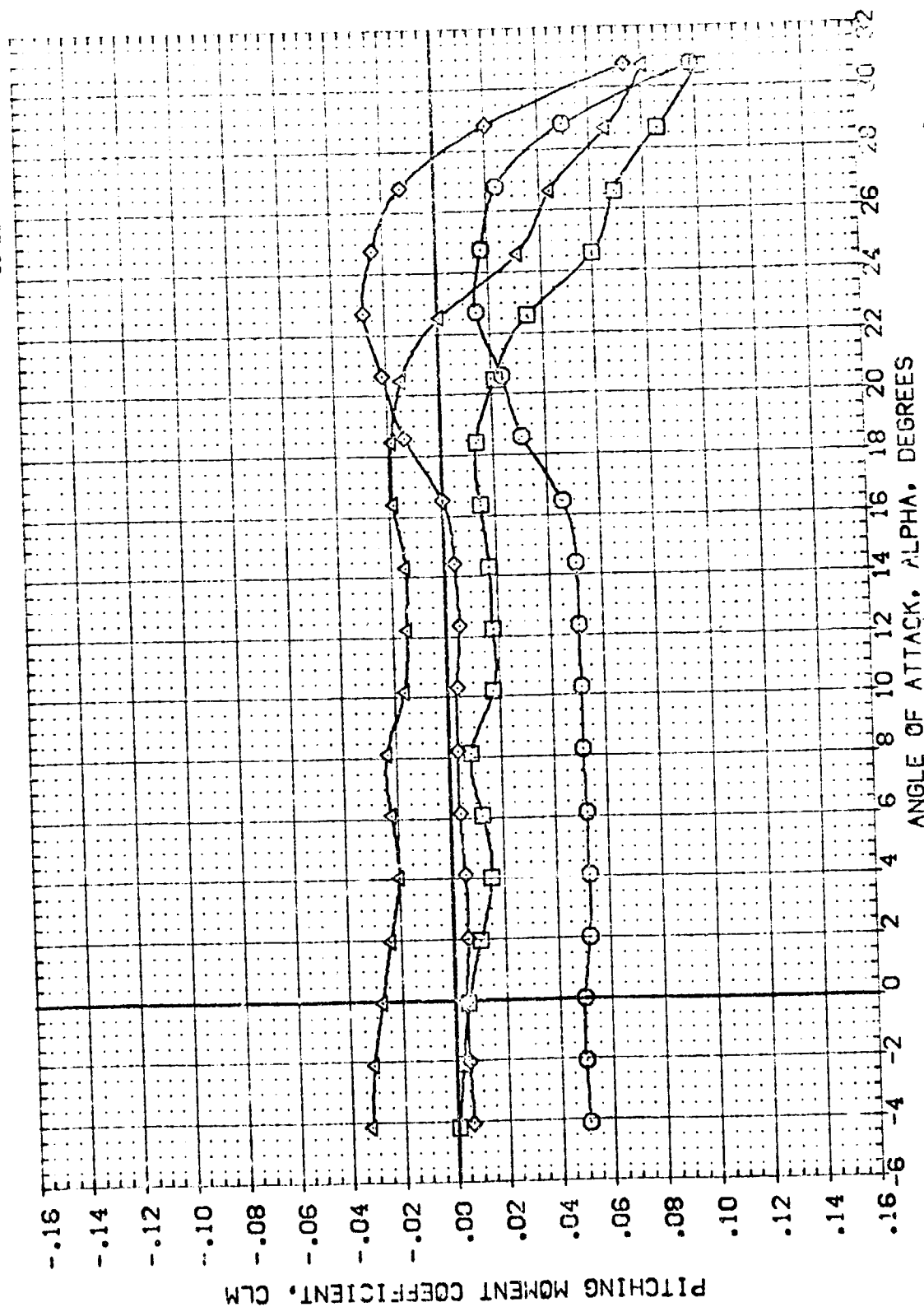


FIGURE 88 CONFIG 139B Z2 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

CAJ MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

| | | | |
|-------------|------|---------|---------|
| 0A21B B19C7 | M4FS | 41119 | SO. FT. |
| 0A21B B19C7 | M4FS | 1972233 | INCHES |
| 0A21B B19C7 | M4FS | 37.5359 | INCHES |
| 0A21B B19C7 | M4FS | 43.5374 | INCHES |
| 0A21B B19C7 | M4FS | 16.0000 | INCHES |
| 0A21B B19C7 | M4FS | 16.0000 | INCHES |
| 0A21B B19C7 | M4FS | 0.0105 | SCALE |

ELEVON AIRLON SPEED BOFLAP

| | | | |
|-------|-------|--------|---------|
| 0.000 | 0.000 | 25.000 | -18.000 |
| 0.000 | 0.000 | 25.000 | -18.000 |
| 0.000 | 0.000 | 25.000 | -18.000 |
| 0.000 | 0.000 | 25.000 | -18.000 |

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

| | | | |
|-------------|------|---------|---------|
| 0A21B B19C7 | M4FS | 41119 | SO. FT. |
| 0A21B B19C7 | M4FS | 1972233 | INCHES |
| 0A21B B19C7 | M4FS | 37.5359 | INCHES |
| 0A21B B19C7 | M4FS | 43.5374 | INCHES |
| 0A21B B19C7 | M4FS | 16.0000 | INCHES |
| 0A21B B19C7 | M4FS | 16.0000 | INCHES |
| 0A21B B19C7 | M4FS | 0.0105 | SCALE |

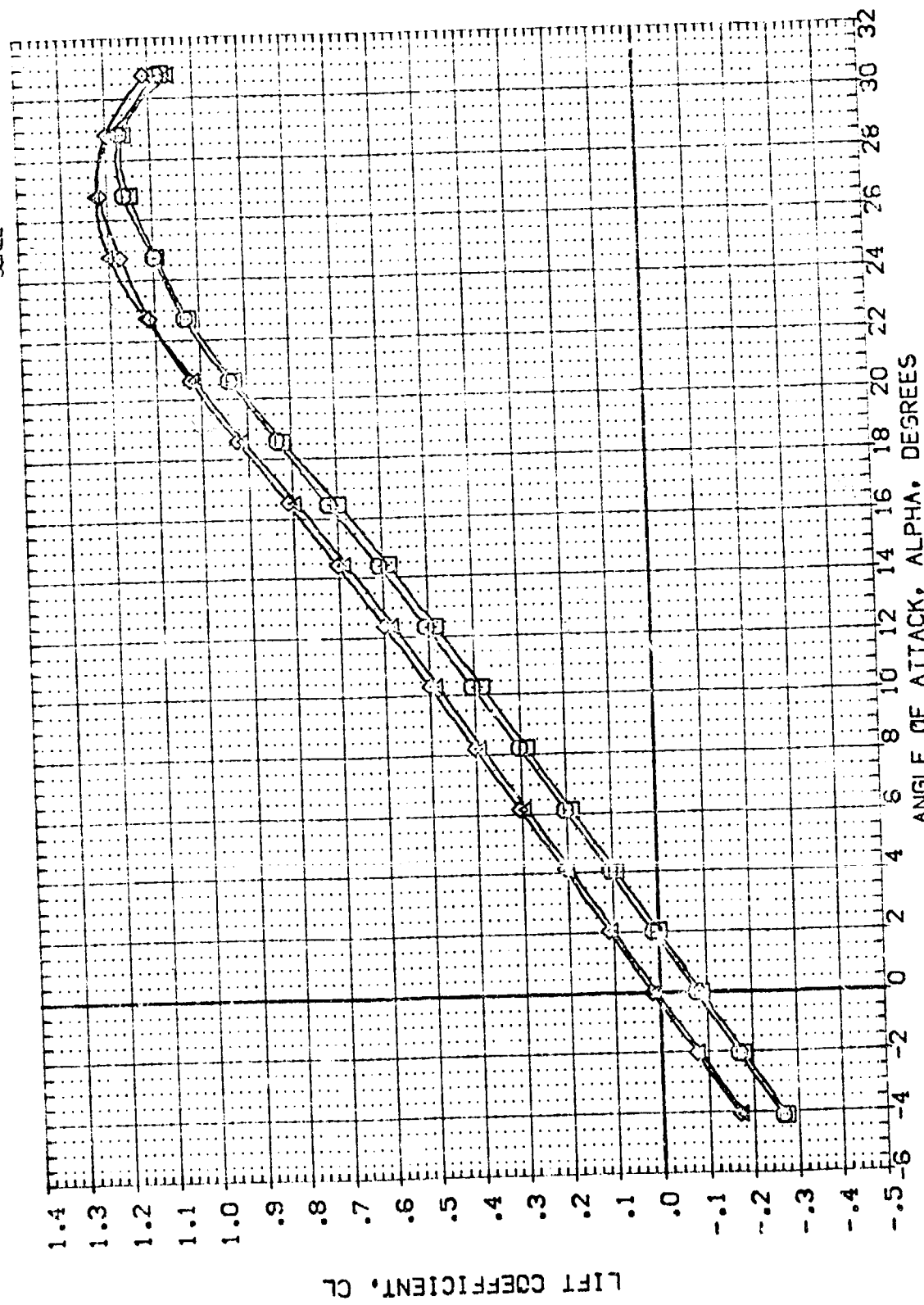


FIGURE 89 CONFIG 139B Z3 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AIJRON | SPDRBK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------------|--------|--------|--------|---------|-----------------------|
| (EDP231) | 0A21B B19C7 M4F5 V107E13V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | 4.4119 SQ.FT. INCHES |
| (EDP234) | 0A21B B19C7 M4F5 V107E13V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | 19.2450 INCHES |
| (EDP243) | 0A21B B19C7 M4F5 V107E13V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | 37.9359 INCHES |
| (EDP240) | 0A21B B19C7 M4F5 V107E13V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | 43.5974 INCHES |
| | | | | | | 16.2000 INCHES |
| | | | | | | .0105 SCALE |

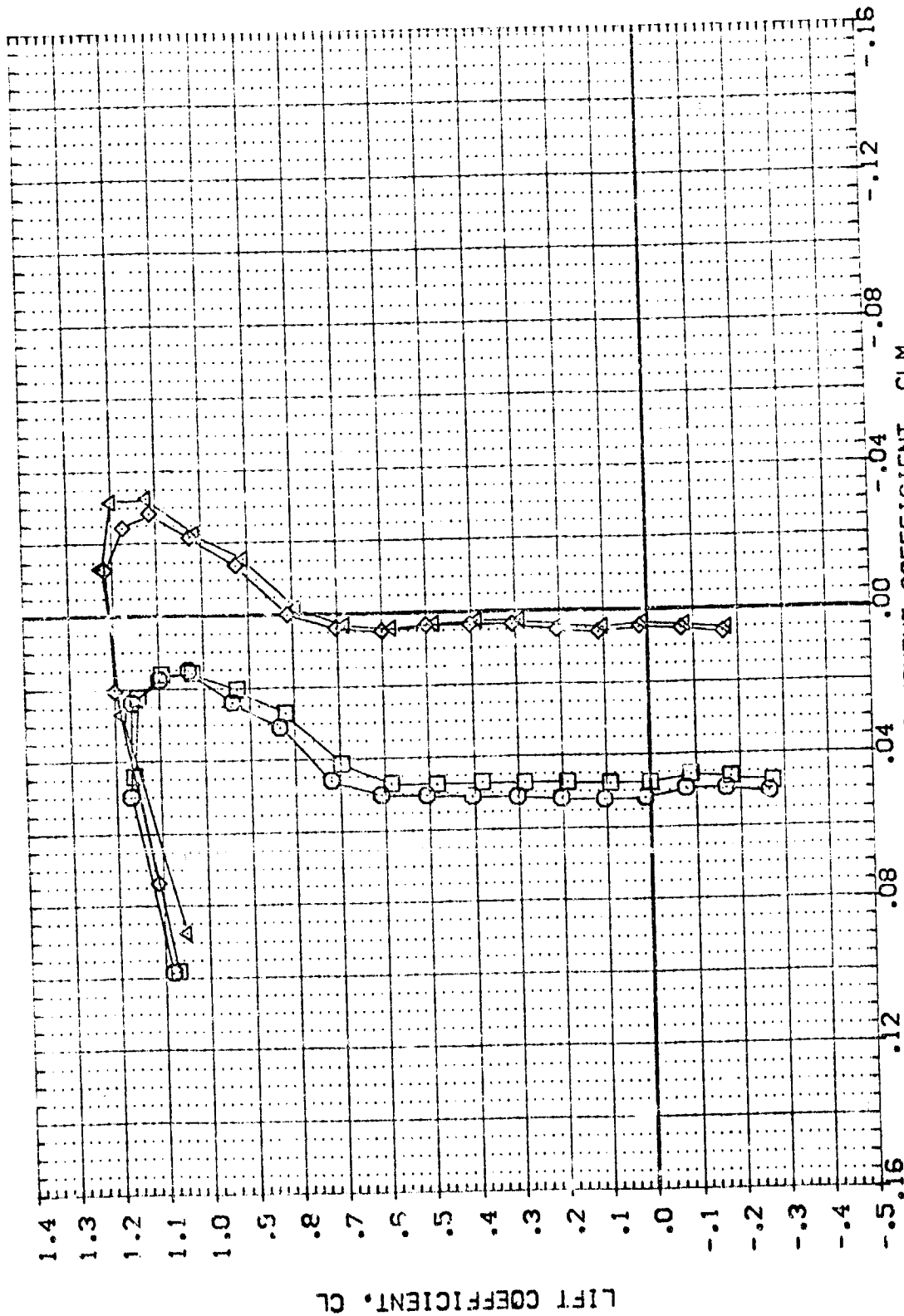


FIGURE 89 CONFIG 139B Z3 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| DATA SET SYMBOL | CONFIGURATION | DESCRIPTION |
|-----------------|---------------|--------------------|
| (EDP231) | 0A21B B1SC7 | M/F5 V101E23V7R6 |
| (EDP234) | 0A21B B1SC7 | M/F5 V101E23V7R6 |
| (EDP243) | 0A21B B1SC7 | M/F5 V101E23V7R6 |
| (EDP240) | 0A21B B1SC7 | M/F5 V101E23V7R6Z3 |

ELEVON AILURON SPEEDBRK BOFLAP

| ELEVON | AILURON | SPEEDBRK | BOFLAP |
|--------|---------|----------|---------|
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| 5.000 | .000 | 25.000 | -18.000 |
| 5.000 | .000 | 25.000 | -18.000 |

REFERENCE INFORMATION

| REFERENCE INFORMATION | SO. FT. |
|-----------------------|---------|
| SREF | 4.4119 |
| LREF | 15.4229 |
| BREF | 37.5339 |
| ANREF | 43.5004 |
| INREF | .0000 |
| NOREF | .0000 |
| SCALE | 16.4130 |

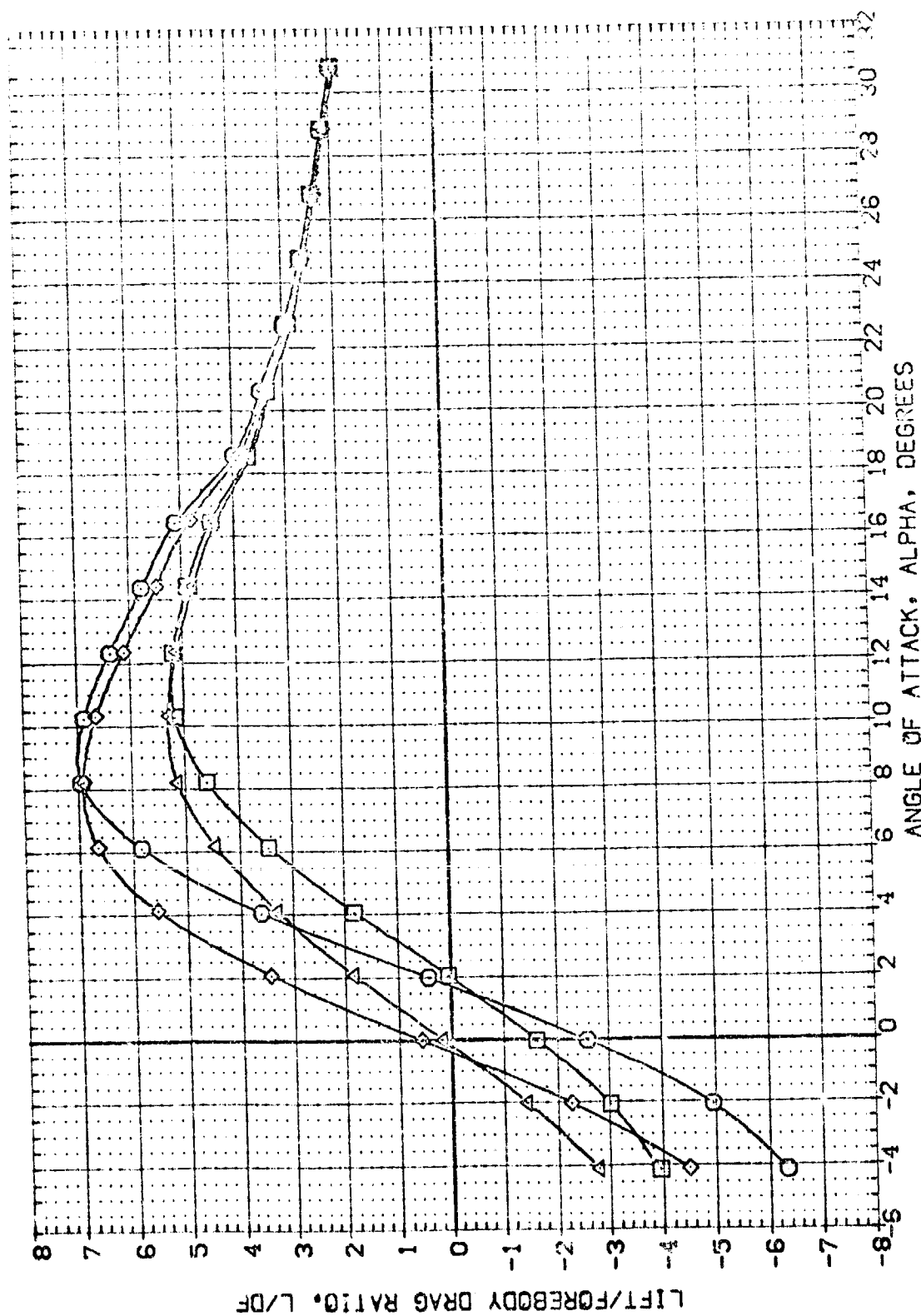


FIGURE 89 CONFIG 139B Z3 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(M)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | LEVON | AILEON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|-------|--------|--------|---------|-----------------------|
| (ED2231) | 0A21B 81SC7 4FS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED2234) | 0A21B 81SC7 MAF5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2283 INCHES |
| (ED2243) | 0A21B 81SC7 MAF5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | BREF 37.6388 INCHES |
| (ED2246) | 0A21B 81SC7 MAF5 V107E23V7R6Z3 | 5.000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

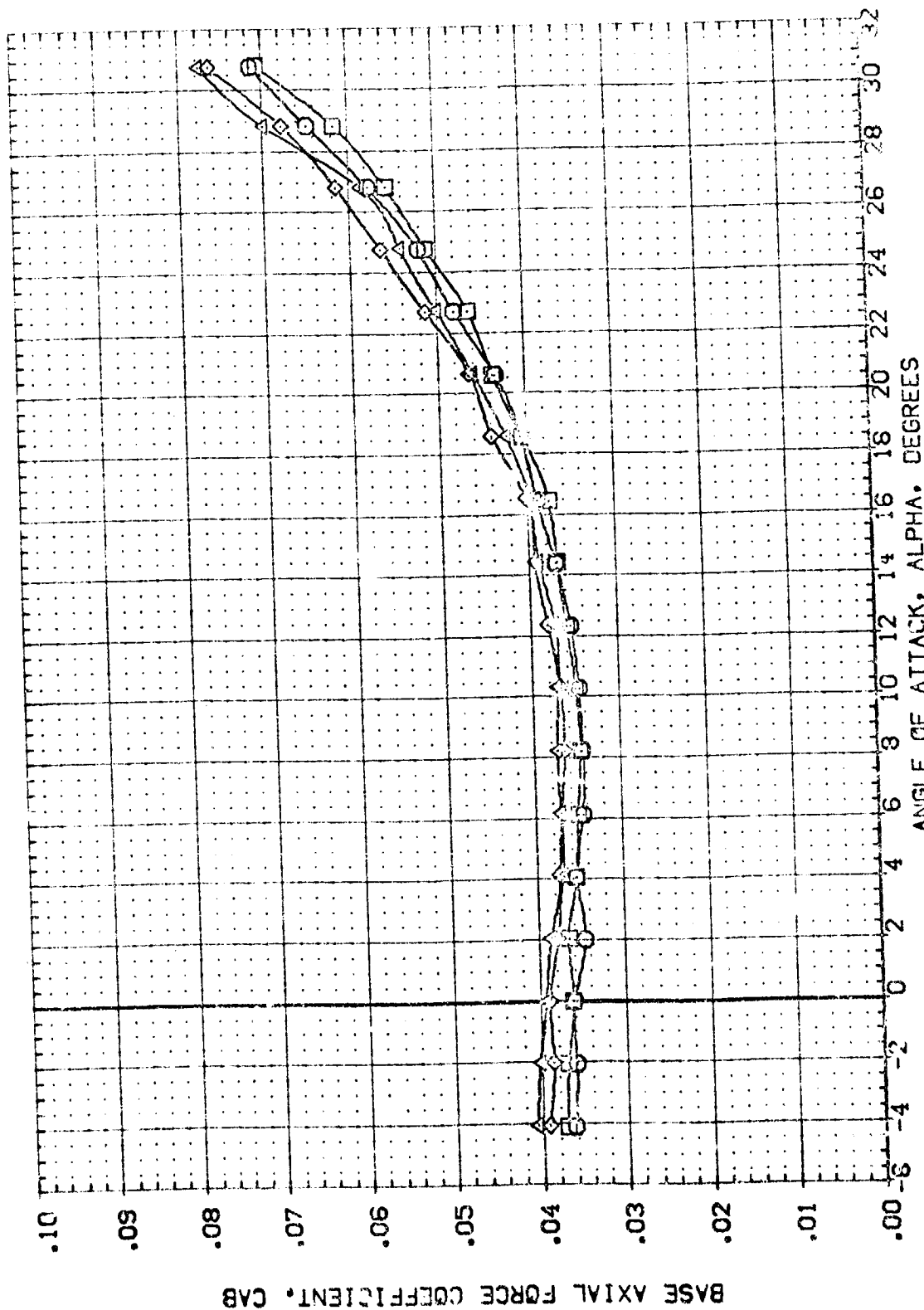


FIGURE 89 CONFIG 1398 Z3 SPEED BRAKE INFLUENCE ON ELEVEN EFFECTIVENESS

(A)MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEED BRAKE | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------------|--------|---------|-------------|---------|---|
| (ED231) | GA218 819C7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 19.2753 37.9359 43.0000 16.0000 .0195 |
| (ED234) | GA218 819C7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | LREF 19.2753 37.9359 43.0000 16.0000 .0195 |
| (ED243) | GA218 819C7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | BREF 19.2753 37.9359 43.0000 16.0000 .0195 |
| (ED240) | GA218 819C7 MAFS V107E23V7R6 Z3 | .000 | .000 | 25.000 | -18.000 | XREF 19.2753 37.9359 43.0000 16.0000 .0195 |
| | | | | | | YREF 19.2753 37.9359 43.0000 16.0000 .0195 |
| | | | | | | ZREF 19.2753 37.9359 43.0000 16.0000 .0195 |
| | | | | | | SCALE 16.0000 .0195 |

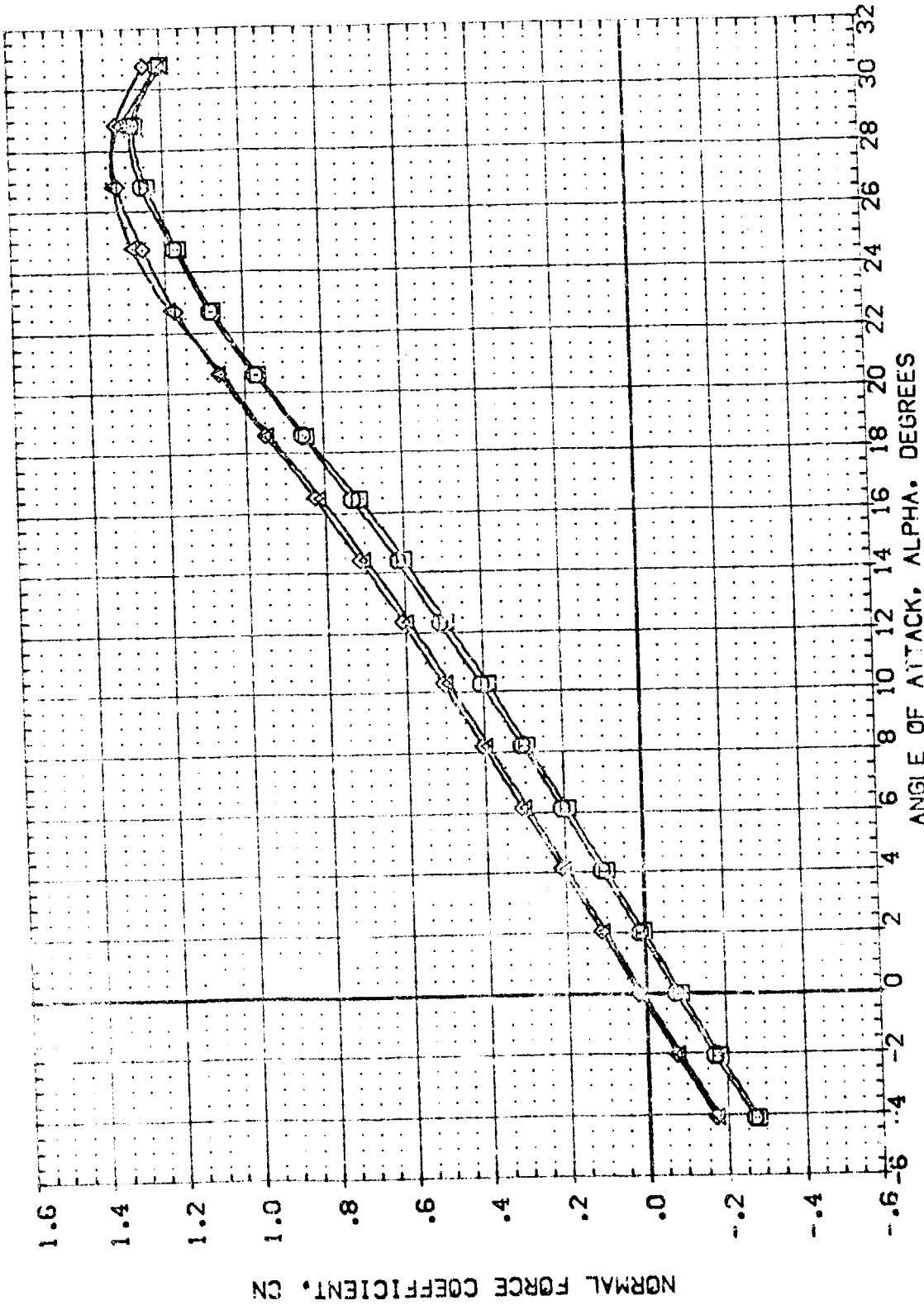


FIGURE 89 CONFIG 139B Z3 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | | | | | |
|-----------|-------|-------|------|-------------|----|
| (EDP-231) | 0A218 | B1SC7 | MAF5 | V107E23V7R6 | Z3 |
| (EDP-234) | 0A218 | B1SC7 | MAF5 | V107E23V7R6 | Z3 |
| (EDP-243) | 0A218 | B1SC7 | MAF5 | V107E23V7R6 | Z3 |
| (EDP-240) | 0A218 | B1SC7 | MAF5 | V107E23V7R6 | Z3 |

ELEVON AILERON SPEEDBRK BOFLAP

| | | | |
|-------|------|--------|---------|
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -8.000 |
| 5.000 | .000 | 25.000 | -18.000 |
| 5.000 | .000 | 25.000 | -18.000 |

REFERENCE INFORMATION

| | | |
|-------|---------|---------|
| SREF | 4.4119 | 50. FT. |
| LREF | 19.2359 | INCHES |
| CRF | 37.0000 | INCHES |
| XREF | 43.5974 | INCHES |
| YREF | .0000 | INCHES |
| ZREF | 16.0000 | INCHES |
| SCALE | .0105 | SCALE |

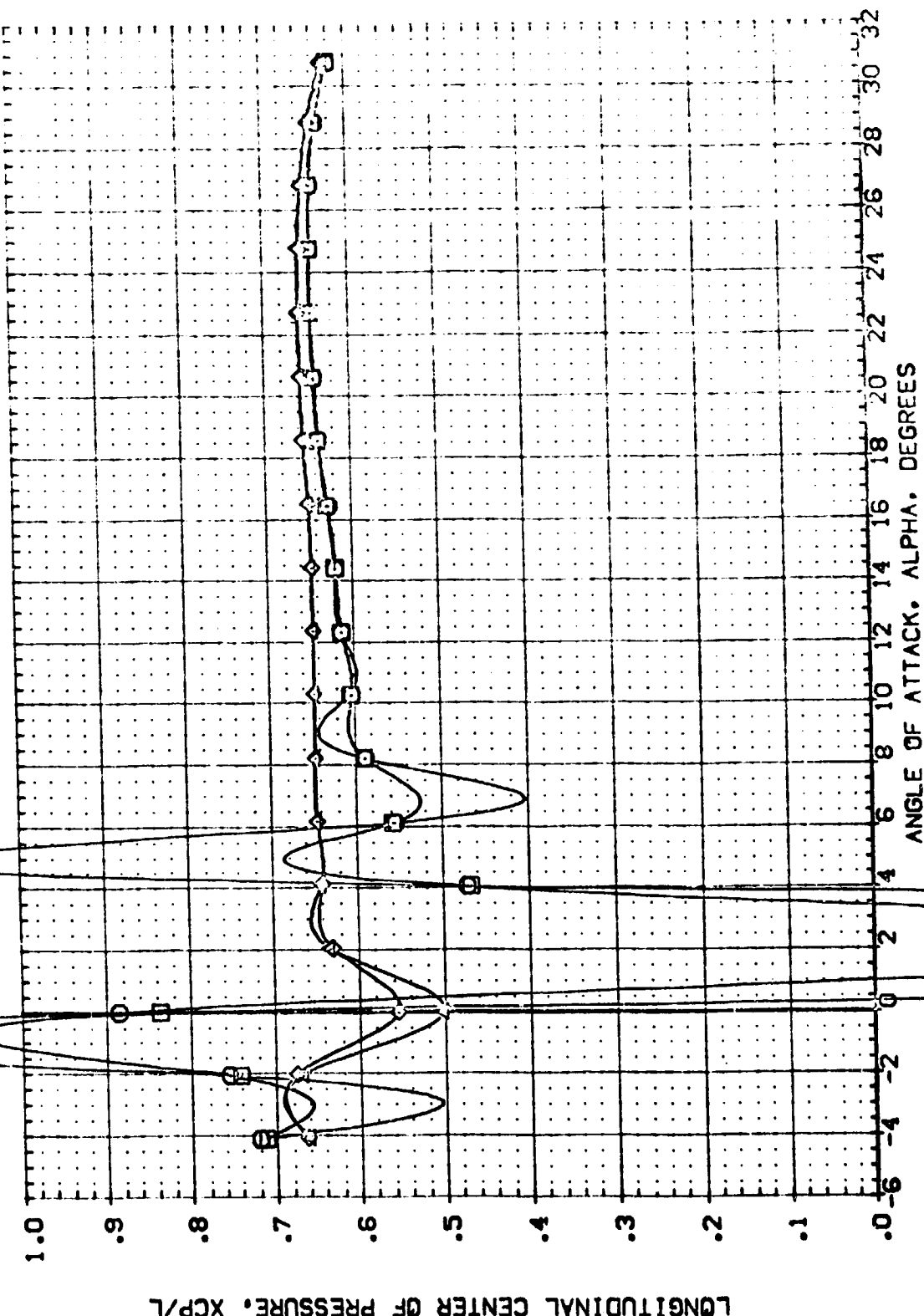


FIGURE 89 CONFIG 139B Z3 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------------|--------|---------|--------|---------|-----------------------|
| (EDP231) | 0A218 B1SC7 M4FS V107E23VTR6 Z3 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP234) | 0A218 B1SC7 M4FS V107E23VTR6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2200 INCHES |
| (EDP243) | 0A218 B1SC7 M4FS V107E23VTR6 | .000 | .000 | 25.000 | -18.000 | ESREF 37.3300 INCHES |
| (EDP240) | 0A218 B1SC7 M4FS V107E23VTR6 | .000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.0000 INCHES |
| | | | | | | SCALE .0105 |

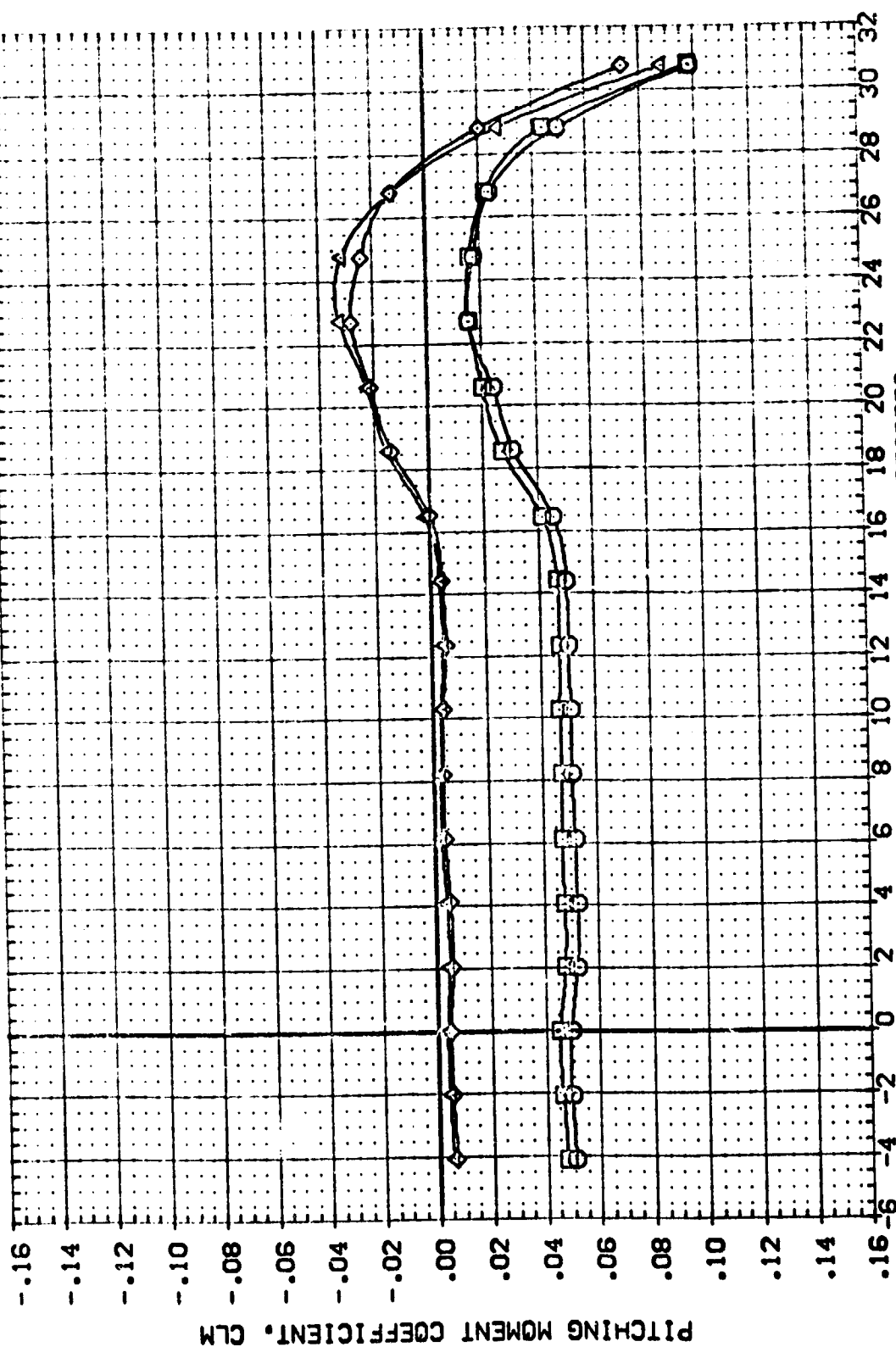


FIGURE 89 CONFIG 139B Z3 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(M)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP220) 0A218 B19C7 MAF3 V107E23V7R6
 (EDP221) 0A218 B19C7 MAF3 V107E23V7R6Z4
 (EDP222) 0A218 B19C7 MAF3 V107E23V7R6
 (EDP223) 0A218 B19C7 MAF3 V107E23V7R6Z5
 (EDP242) 0A218 B19C7 MAF3 V107E23V7R6Z5

ELEVON AILRON SPEEDBRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 5.000 .000 25.000 -18.000
 5.000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 90.FT.
 LREF 19.2799 INCHES
 CLREF 37.5373 INCHES
 XREF 43.5374 INCHES
 YREF 16.2000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE

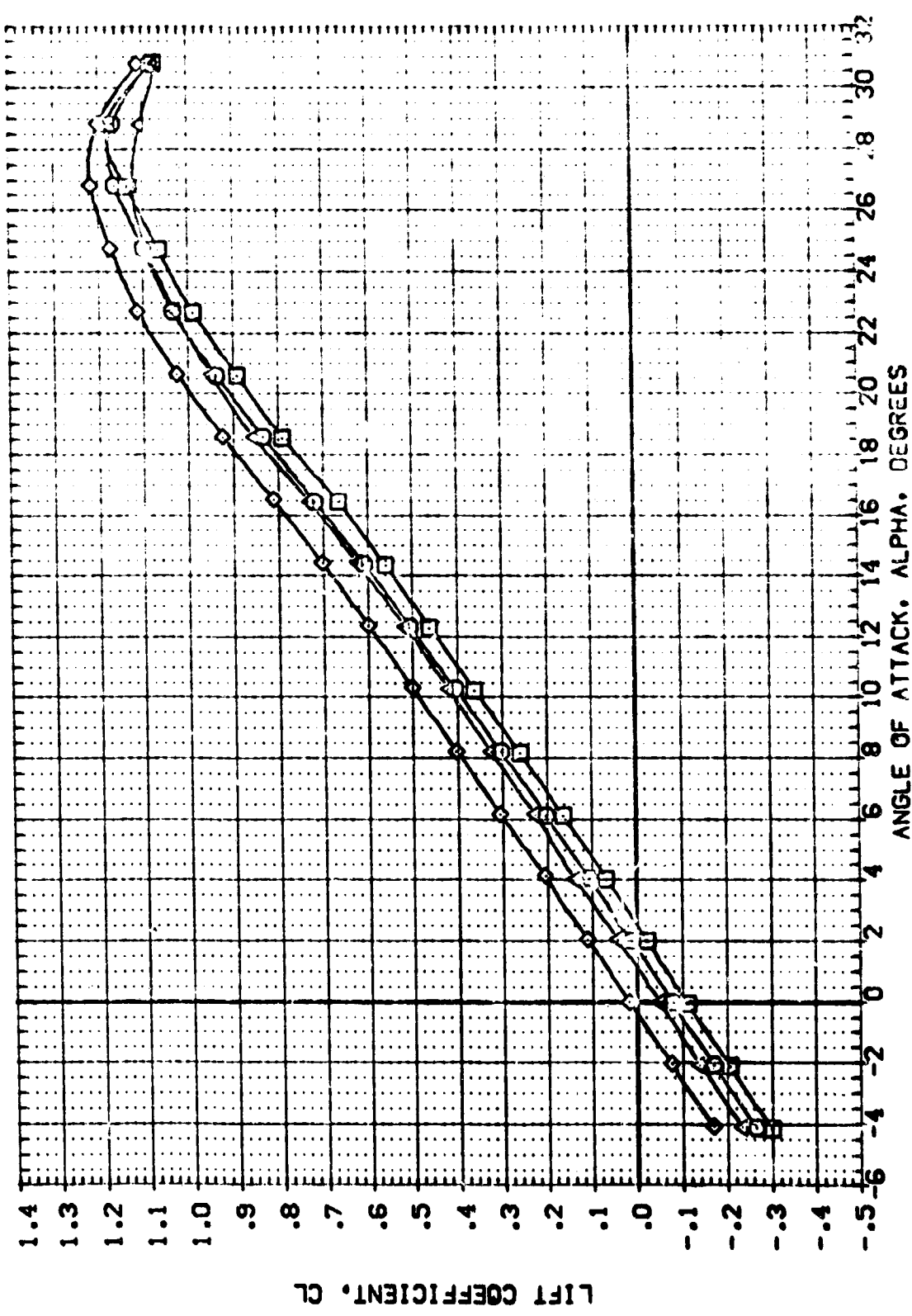


FIGURE 90 CONFIG 139B Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEED | BOFLAP | REFERENCE INFORMATION |
|-----------------|-----------------------------|--------|---------|--------|---------|-----------------------|
| (EDP231) | CA218 B19C7 MFS V107E23VTR6 | .000 | .000 | 23.000 | -18.000 | REF 4.4119 90 FT |
| (EDP237) | CA218 B19C7 MFS V107E23VTR6 | .000 | .000 | 23.000 | -19.000 | LRF 19.2289 INCHES |
| (EDP243) | CA219 B19C7 MFS V107E23VTR6 | 5.000 | .000 | 23.000 | -18.000 | BRF 37.9759 INCHES |
| (EDP242) | CA218 B19C7 MFS V107E23VTR6 | 5.000 | .000 | 23.000 | -18.000 | YRF 43.5874 INCHES |
| | | | | | | YRF 16.0000 INCHES |
| | | | | | | YRF 16.0000 INCHES |
| | | | | | | SCALE .0405 |

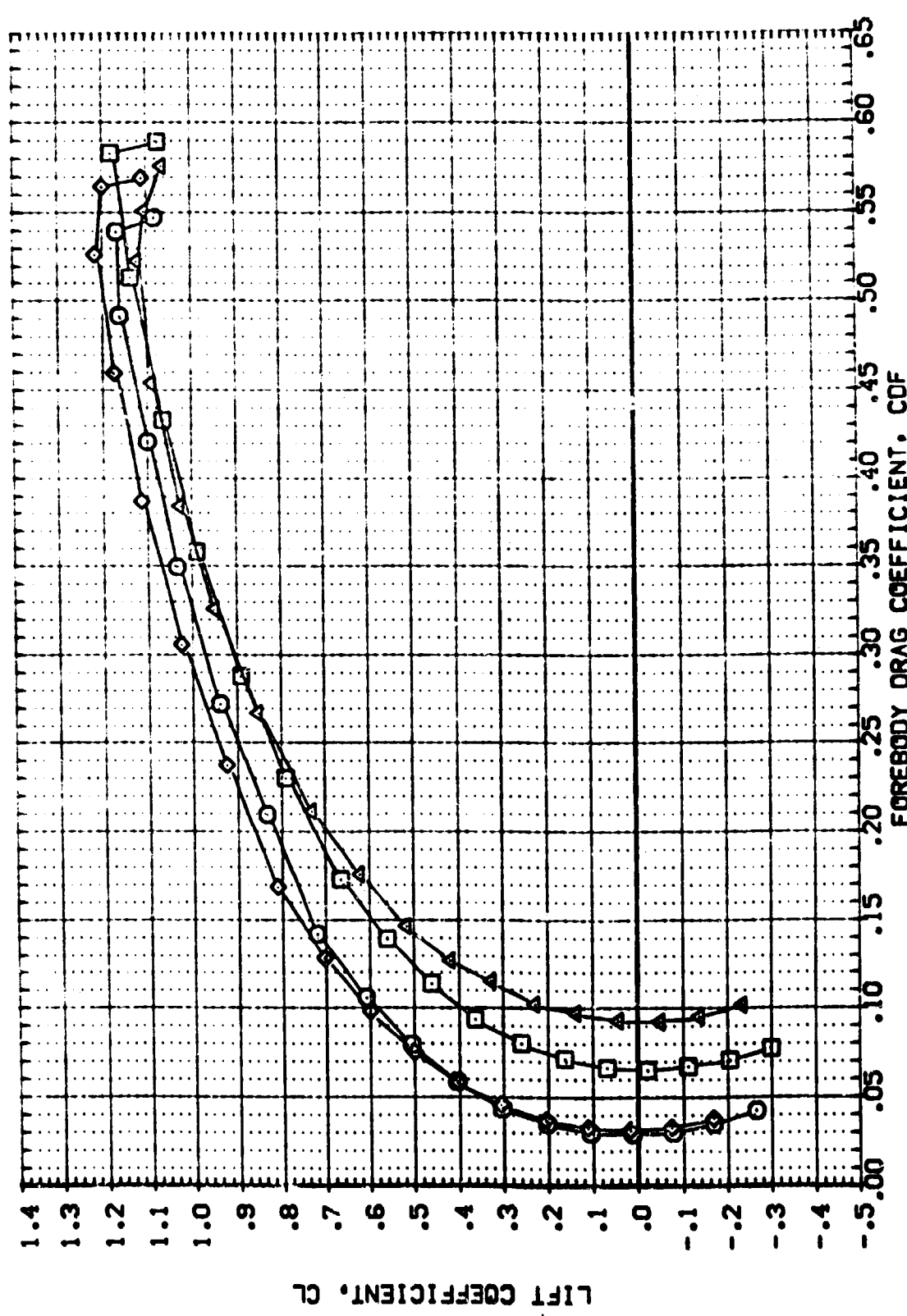


FIGURE 90 CONFIG 1398 Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

CAJMACH = .16

| DATA SET SYMBOL | CONFIGURATION | DESCRIPTION |
|-----------------|---------------|--------------------|
| [DP231] | 0A218 815C7 | HP-5 V107E23V7R6S |
| [DP237] | 0A218 815C7 | HP-5 V107E23V7R624 |
| [DP243] | 0A218 815C7 | HP-5 V107E23V7R6S |
| [DP242] | 0A218 815C7 | HP-5 V107E23V7R625 |

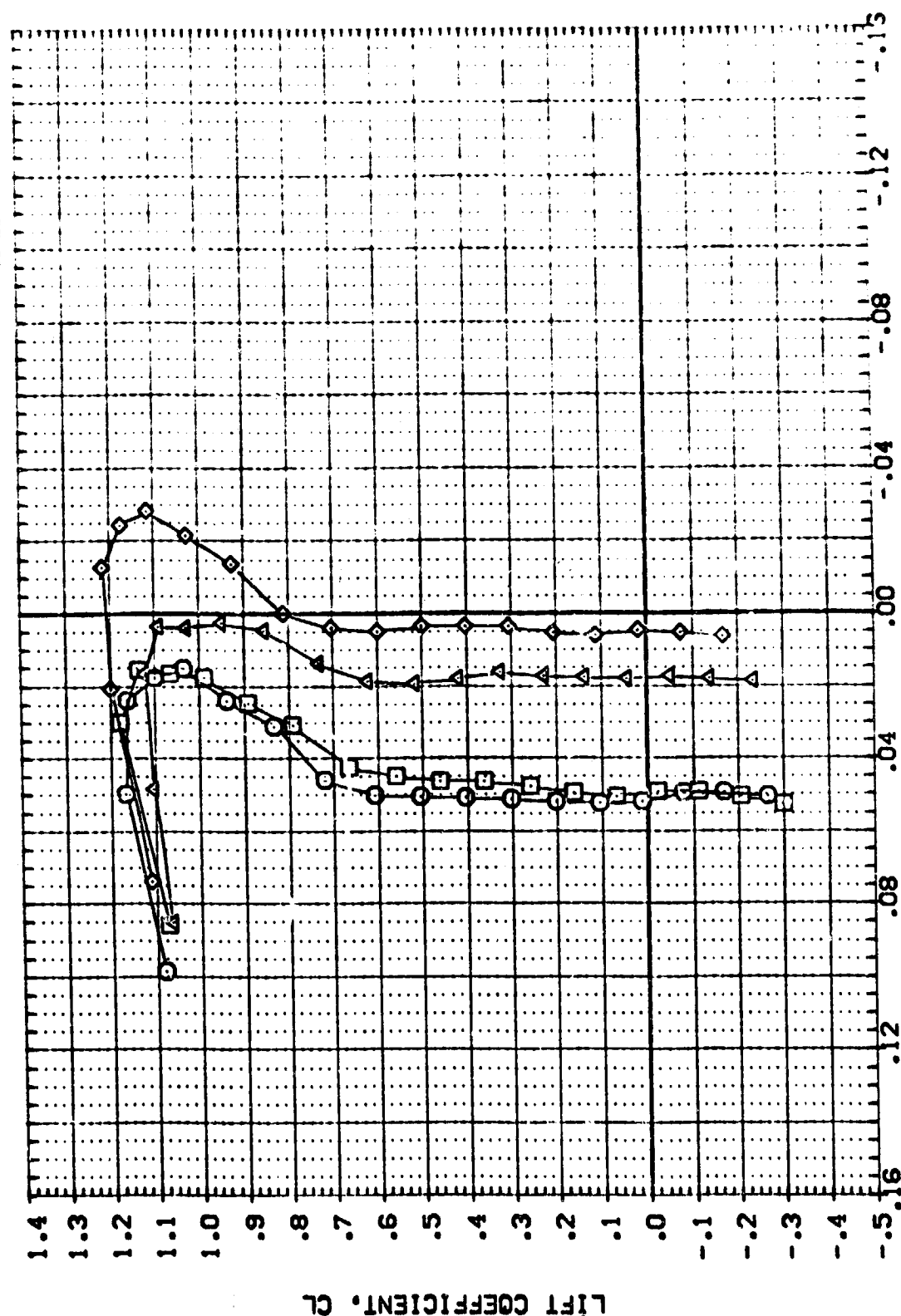


FIGURE 90 CONFIG 139B Z4 SPEED BRAKE INFLUENCE ON ELEVEN EFFECTIVENESS

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|---------|---------|---------|-----------------------|
| (ED2231) | CA218 B19C7 M4FS V107E23V7RS | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED2237) | CA218 B19C7 M4FS V107E23V7RG24 | .000 | .000 | 25.000 | -18.000 | UREF 19.2289 INCHES |
| (ED2243) | CA218 B19C7 M4FS V107E23V7RG | 5.000 | .000 | 25.000 | -18.000 | BREF 37.5239 INCHES |
| (ED2242) | CA218 B19C7 M4FS V107E23V7RG25 | 5.000 | .000 | 25.000 | -18.000 | XREF 43.5874 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.7400 INCHES |
| | | | | | | SCALE .0403 |

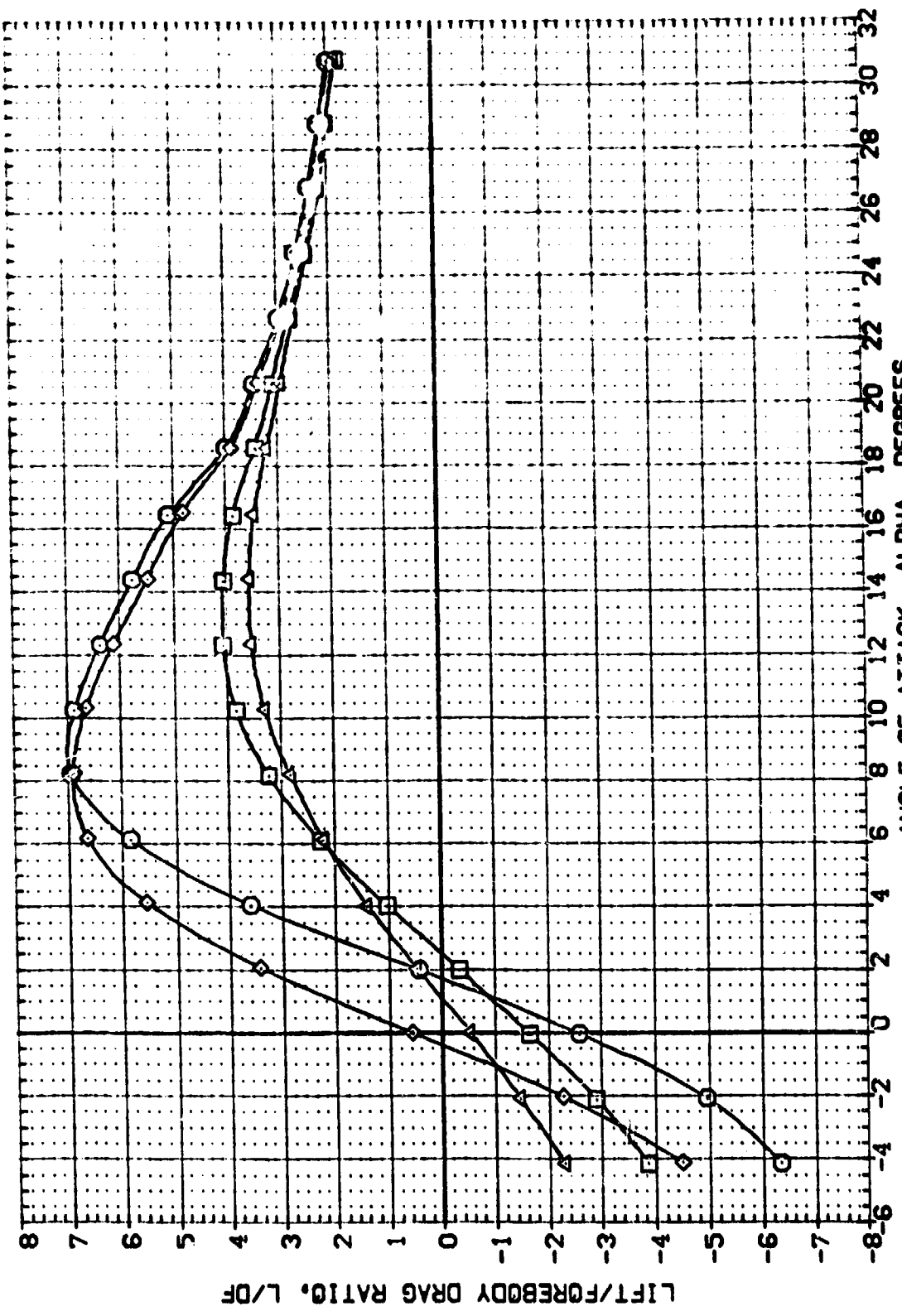


FIGURE 90 CONFIG 1398 Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

| | | | | | | | | | | | | | |
|-----------------|---|---------------------------|-------|--------|--------------|-------|------|--------|---------|-------|---------|-----------------------|--|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | ELEVON | | ALIGN | | SPIN | | SCALE | | REFERENCE INFORMATION | |
| [EDP231] | Q | CA218 | B1SC7 | M4F5 | V107E23VTR8 | .000 | .000 | 25.000 | -10.000 | SWP | 4.4118 | SO.FT. | |
| [EDP237] | X | CA218 | B1SC7 | M4F5 | V107E23VTR24 | .000 | .000 | 25.000 | -10.000 | UREF | 19.2239 | INCHES | |
| [EDP243] | | CA218 | B1SC7 | M4F5 | V107E23VTR5 | .000 | .000 | 25.000 | -10.000 | BREF | 37.9339 | INCHES | |
| [EDP242] | | CA218 | B1SC7 | M4F5 | V107E23VTR23 | .000 | .000 | 25.000 | -10.000 | XP2P | 43.5974 | INCHES | |
| | | | | | | | | | | YREF | 00.00 | INCHES | |
| | | | | | | | | | | ZREF | 18.2000 | INCHES | |
| | | | | | | | | | | SCALE | .0400 | SCALE | |

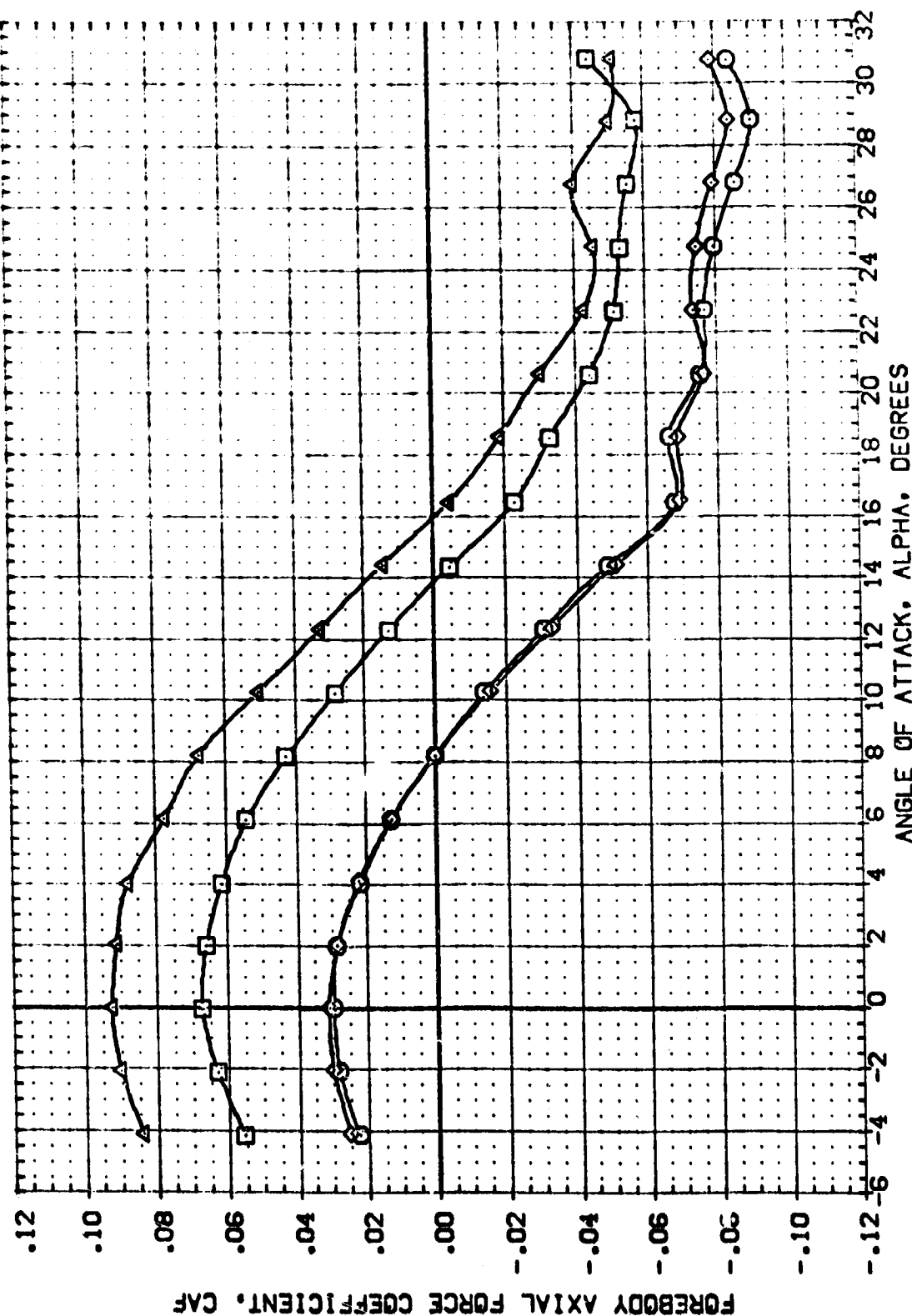


FIGURE 90 CONFIG 139B Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(AJMACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|---------|---------|---------|-----------------------|
| (ED231) | 0A218 B19C7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED237) | 0A218 B19C7 M4FS V107E23V7R624 | .000 | .000 | 25.000 | -18.000 | LREF 19.2239 INCHES |
| (ED243) | 0A218 B19C7 M4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | BREF 37.5339 INCHES |
| (ED242) | 0A218 B19C7 M4FS V107E23V7R625 | 5.000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0435 |

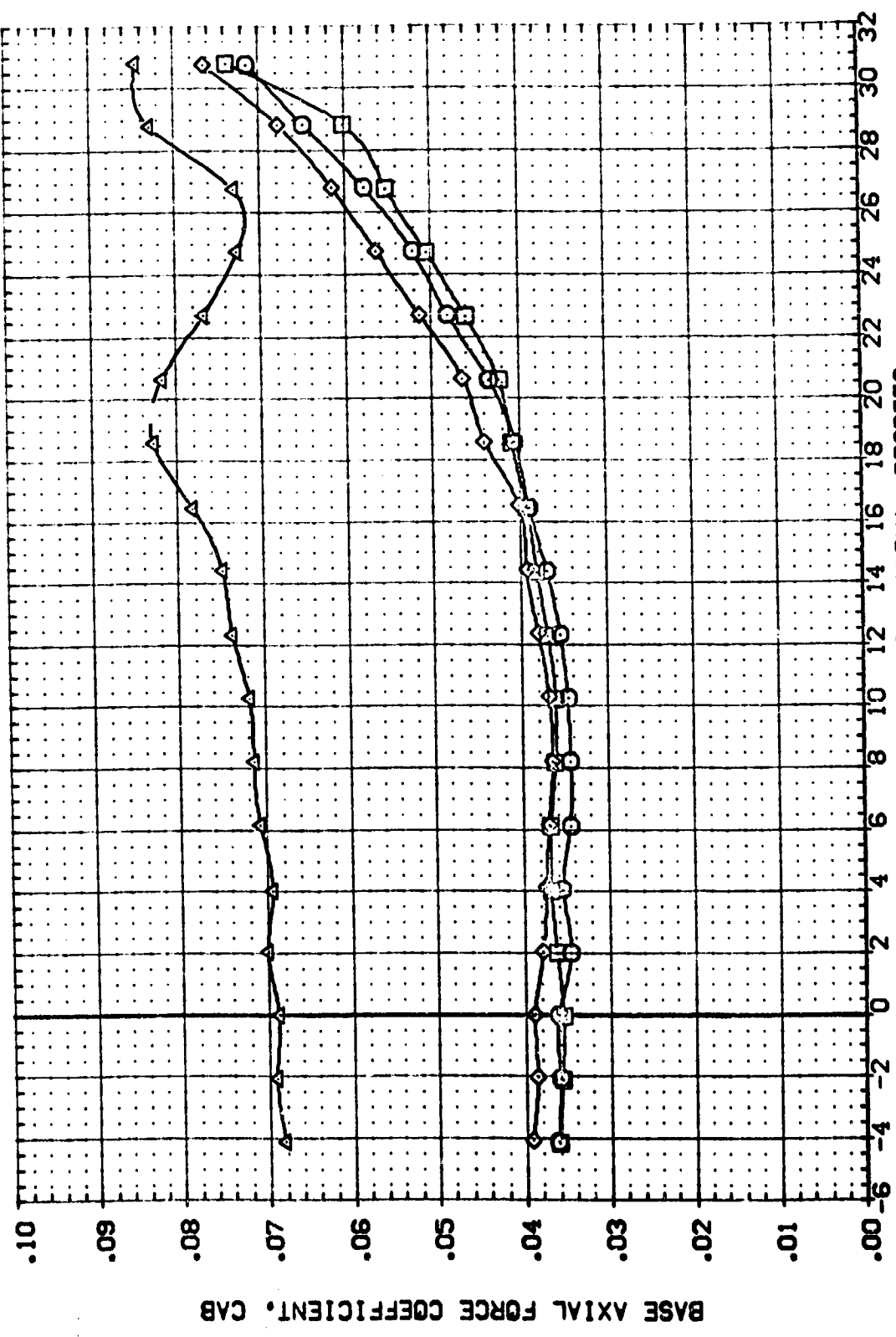


FIGURE 90 CONFIG 139B Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(MACH = .16

| | | | | | | |
|-----------------|---------------------------------|--------|---------|-------------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILURON | SPEED BRAKE | BOFLAP | REFERENCE INFORMATION |
| [EDP221] | 0A218 819C7 M4F3 V107E23V/R6S | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| [EDP237] | 0A218 819C7 M4F3 V107E23V/R6S24 | .000 | .000 | 25.000 | -18.000 | LREF 19.2259 INCHES |
| [EDP243] | 0A218 819C7 M4F3 V107E23V/R6S | 5.000 | .000 | 25.000 | -18.000 | BREF 37.5359 INCHES |
| [EDP242] | 0A218 819C7 M4F3 V107E23V/R6S25 | 5.000 | .000 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 15.2000 INCHES |
| | | | | | | SCALE .0405 |

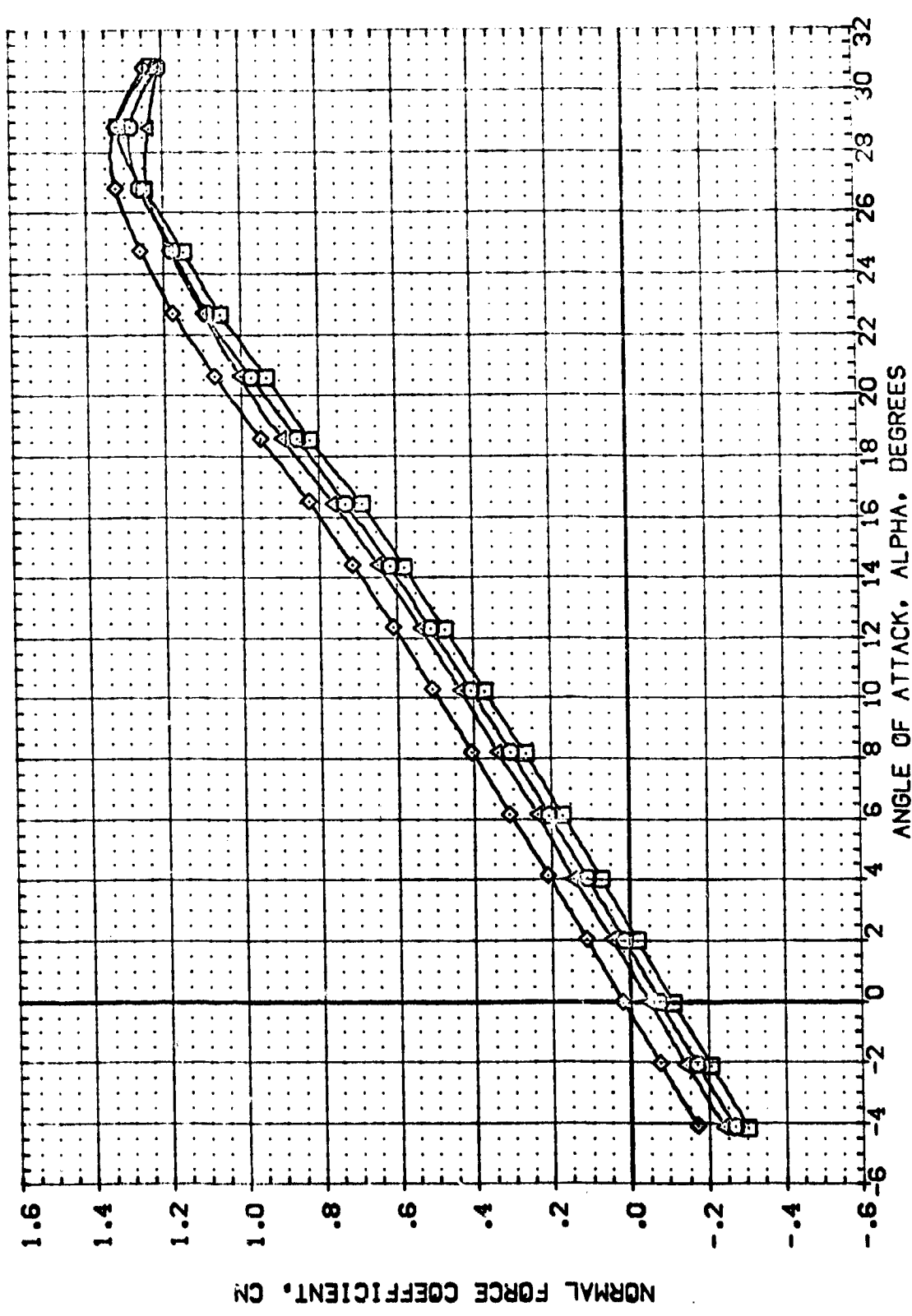


FIGURE 90 CONFIG 1398 Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

CA/MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION |
|-----------------|---------------------------|
| (EDP231) | 0A21B B19C7 |
| (EDP232) | 0A21B B19C7 |
| (EDP233) | 0A21B B19C7 |
| (EDP234) | 0A21B B19C7 |
| (EDP235) | 0A21B B19C7 |
| (EDP236) | 0A21B B19C7 |
| (EDP237) | 0A21B B19C7 |
| (EDP238) | 0A21B B19C7 |
| (EDP239) | 0A21B B19C7 |
| (EDP240) | 0A21B B19C7 |
| (EDP241) | 0A21B B19C7 |
| (EDP242) | 0A21B B19C7 |
| (EDP243) | 0A21B B19C7 |
| (EDP244) | 0A21B B19C7 |
| (EDP245) | 0A21B B19C7 |
| (EDP246) | 0A21B B19C7 |
| (EDP247) | 0A21B B19C7 |
| (EDP248) | 0A21B B19C7 |
| (EDP249) | 0A21B B19C7 |
| (EDP250) | 0A21B B19C7 |

| ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|--------|---------|---------|---------|-----------------------|
| .000 | .000 | 25.000 | -18.000 | SREF 4.4119 |
| .000 | .000 | 25.000 | -18.000 | UREF 19.2259 |
| .000 | .000 | 25.000 | -18.000 | YREF 37.6539 |
| .000 | .000 | 25.000 | -18.000 | XREF 43.5574 |
| .000 | .000 | 25.000 | -18.000 | YMRP .0030 |
| .000 | .000 | 25.000 | -18.000 | ZMRP 16.2000 |
| .000 | .000 | 25.000 | -18.000 | SCALE .0405 |

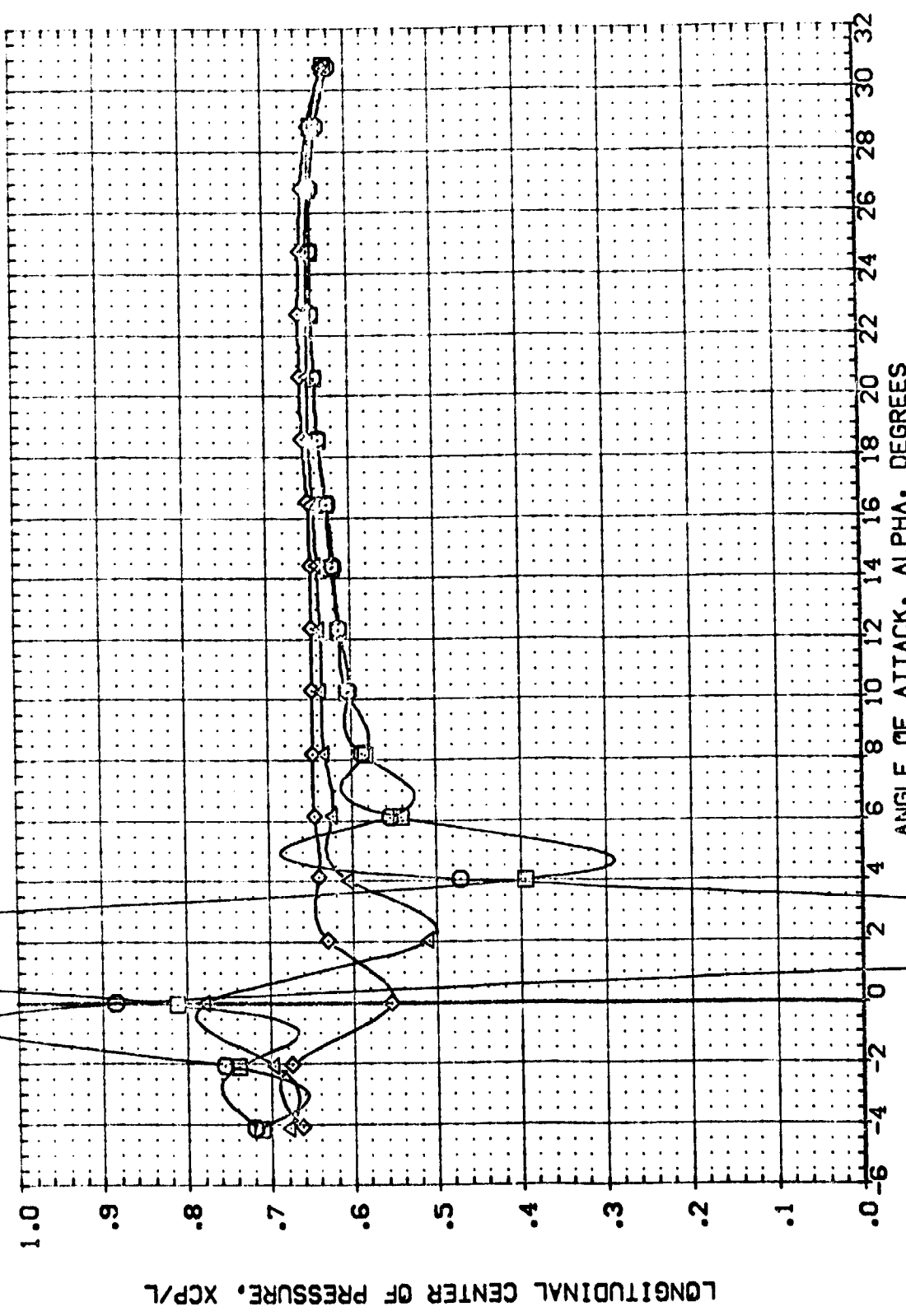


FIGURE 90 CONFIG 139B Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(AJMACH = .16

| | | | | | | | |
|----------|--------|---------------------------------|--------|--------|--------|---------|-----------------------|
| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILRON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
| (ED2231) | □ | 0A218 B19C7 M4F5 V107E23V7R6S2 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SC.F.T. |
| (ED2237) | × | 0A218 B19C7 M4F5 V107E23V7R6S24 | .000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ED2243) | × | 0A218 B19C7 M4F5 V107E23V7R6S | 5.000 | .000 | 25.000 | -18.000 | BREF 37.9339 INCHES |
| (ED242) | × | 0A218 B19C7 M4F5 V107E23V7R6S25 | 5.000 | .000 | 25.000 | -18.000 | XREF 43.8374 INCHES |
| | | | | | | | YREF .0000 INCHES |
| | | | | | | | ZREF 16.2030 INCHES |
| | | | | | | | SCALE .0405 |

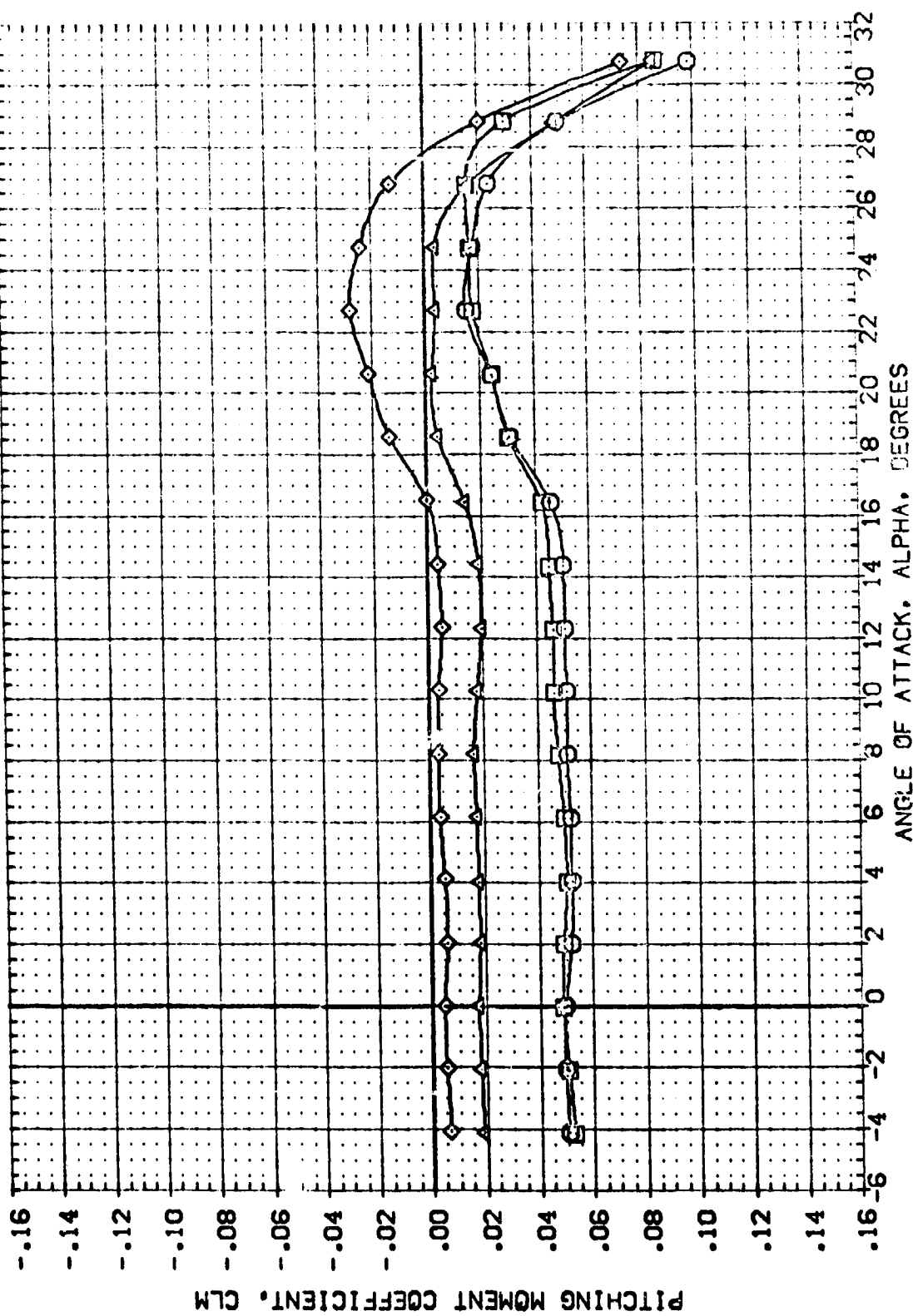


FIGURE 90 CONFIG 139B Z4 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

CAJMACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|---------|---------|---------|-----------------------|
| (EDP231) | CA21B B1SC7 MAFS | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SC.FT. |
| (EDP232) | CA21B B1SC7 MAFS | .000 | .000 | 25.000 | -18.000 | LREF 9.2293 INCHES |
| (EDP233) | CA21B B1SC7 MAFS | .000 | .000 | 25.000 | -18.000 | DREF 7.8539 INCHES |
| (EDP242) | CA21B B1SC7 MAFS | .000 | .000 | 25.000 | -18.000 | XREF 43.5374 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

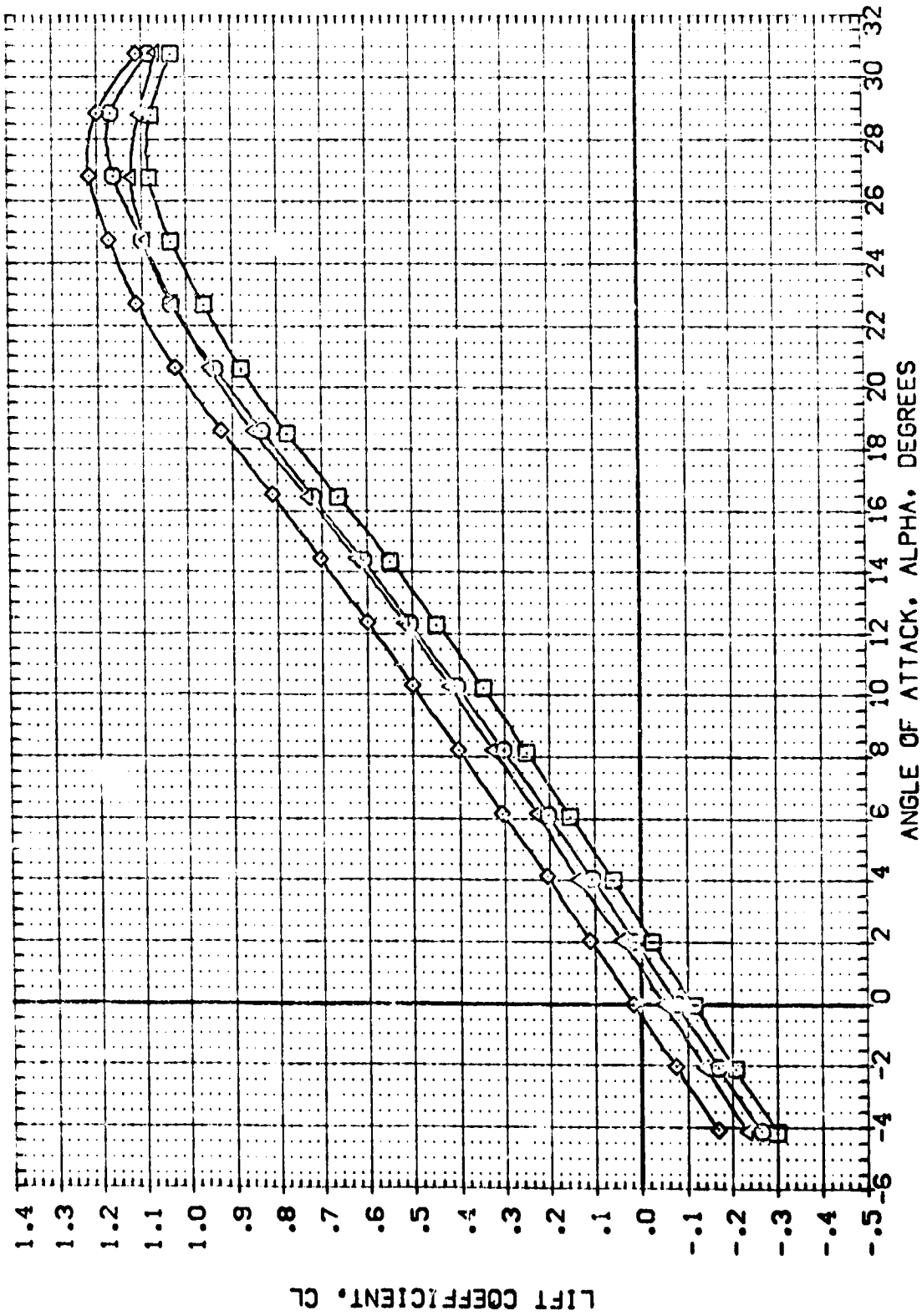


FIGURE 91 CONFIG 139B Z5 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|---------|--------|---------|-----------------------|
| (ED221) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 4.4119 SO.FT. |
| (ED222) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 19.2229 INCHES |
| (ED223) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 37.0000 INCHES |
| (ED224) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 43.5000 INCHES |
| (ED225) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED226) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED227) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED228) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED229) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED230) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED231) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED232) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED233) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED234) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED235) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED236) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED237) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED238) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED239) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED240) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED241) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |
| (ED242) | DA21B B1007 | .000 | .000 | 25.000 | -10.000 | 15.0000 INCHES |

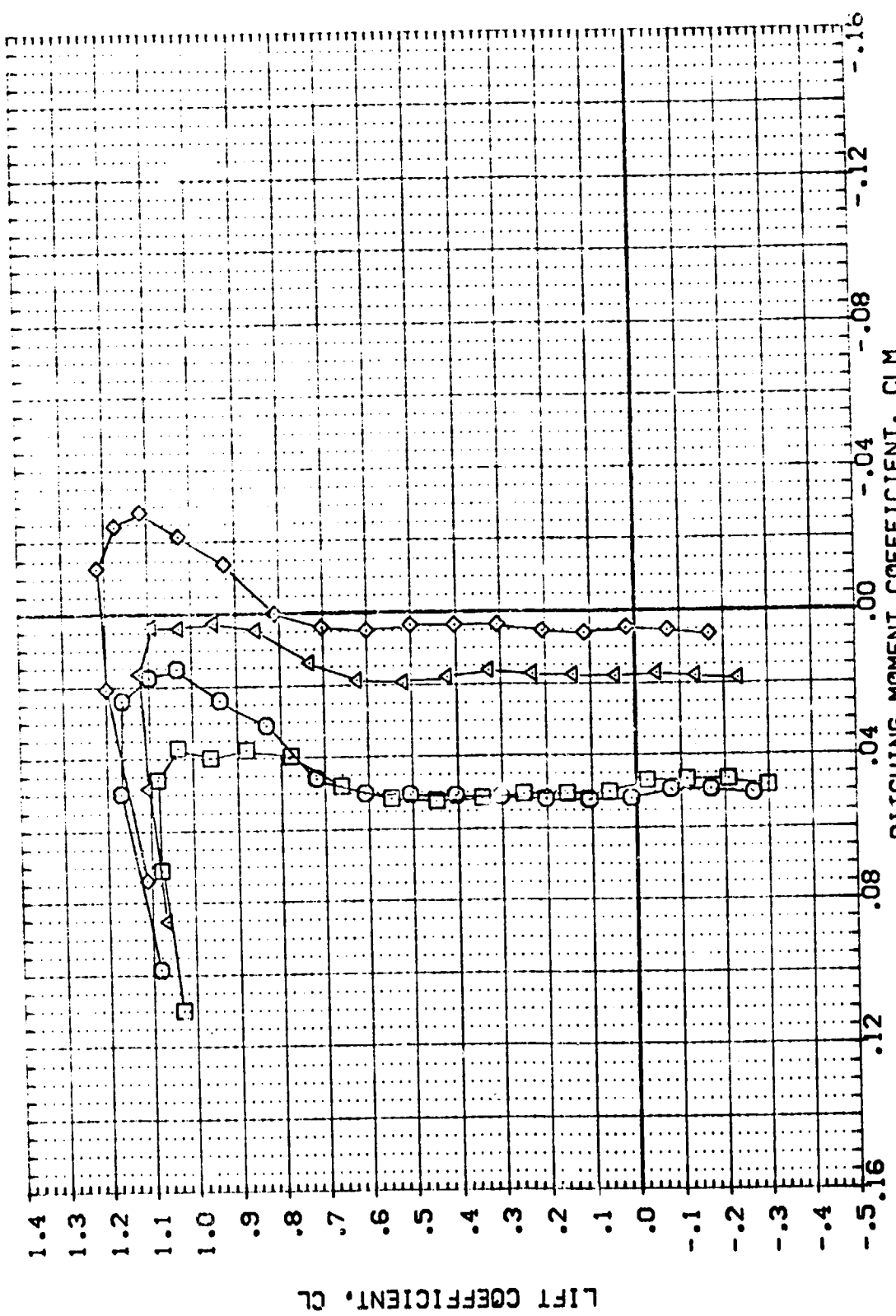


FIGURE 91 CONFIG 139B Z5 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS
 (A)MACH = .16 PAGE 93

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AIRLON | SPDBRK | EDFLAP | REFERENCE INFORMATION |
|----------|--------|-------------------------------|--------|--------|--------|---------|-----------------------|
| (EDP231) | ○ | 0A21B B1SC7 M4FS V107E23V/TRS | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SC.FT. |
| (EDP232) | ◇ | 0A21B B1SC7 M4FS V107E23V/TRS | .000 | .000 | 25.000 | -18.000 | LREF 19.2229 INCHES |
| (EDP233) | △ | 0A21B B1SC7 M4FS V107E23V/TRS | 5.000 | .000 | 25.000 | -18.000 | BREF 37.5359 INCHES |
| (EDP242) | □ | 0A21B B1SC7 M4FS V107E23V/TRS | .000 | .000 | 25.000 | -18.000 | XMRP 43.5974 INCHES |
| | | | | | | | ZMRP .0000 INCHES |
| | | | | | | | SCALE 16.2000 |
| | | | | | | | SCALE .0400 |

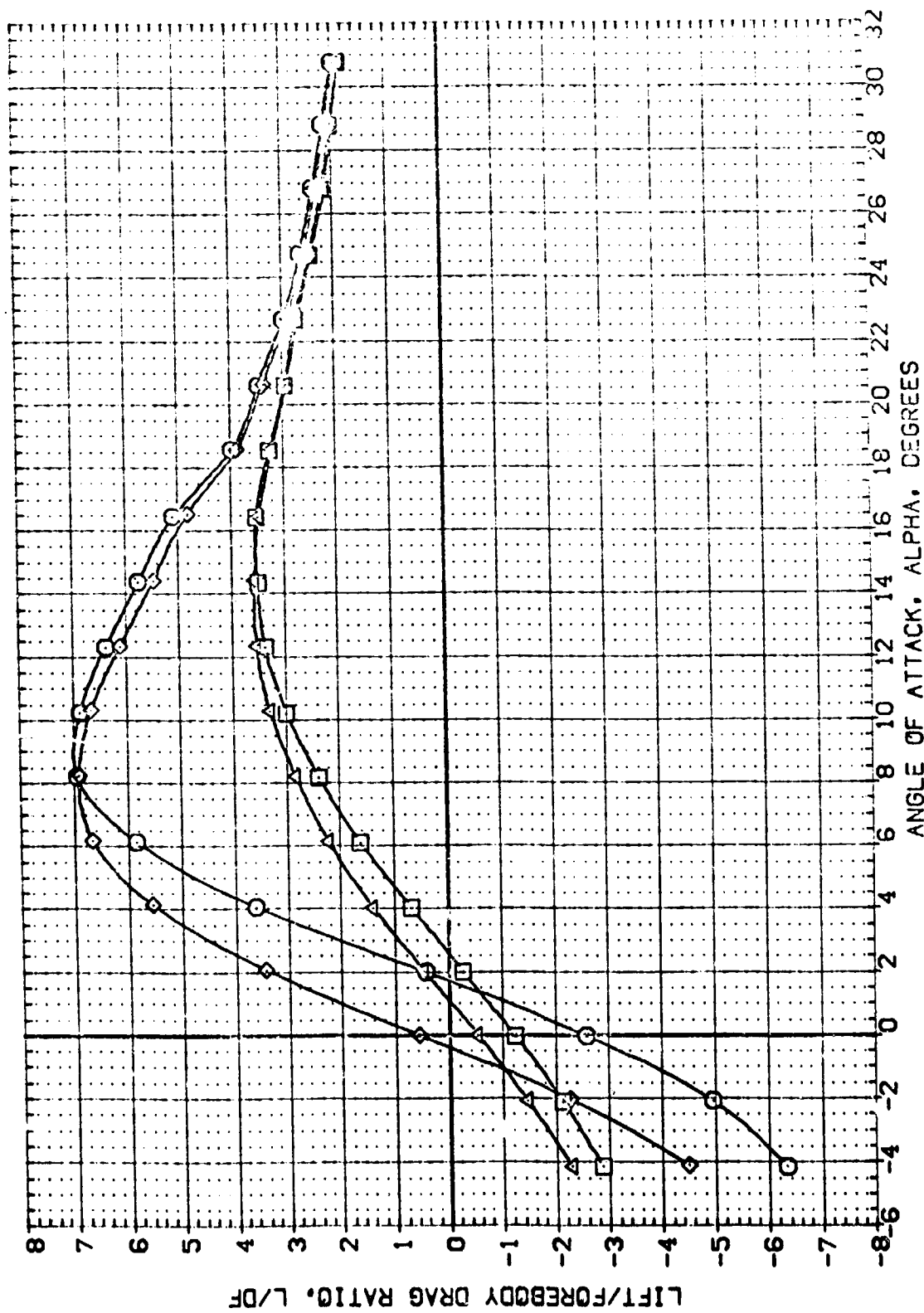


FIGURE 91 CONFIG 139B Z5 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

CA/MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AIRLON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|--------|--------|---------|-----------------------|
| (ED231) | 0A21B B1SC7 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED232) | 0A21B B1SC7 | .000 | .000 | 25.000 | -18.000 | LREF 19.2293 INCHES |
| (ED243) | 0A21B B1SC7 | .000 | .000 | 25.000 | -18.000 | BREF 37.5359 INCHES |
| (ED242) | 0A21B B1SC7 | .000 | .000 | 25.000 | -18.000 | XGRP 43.5374 INCHES |
| | | 5.000 | .000 | 25.000 | -18.000 | YGRP .0000 INCHES |
| | | 5.000 | .000 | 25.000 | -18.000 | ZGRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

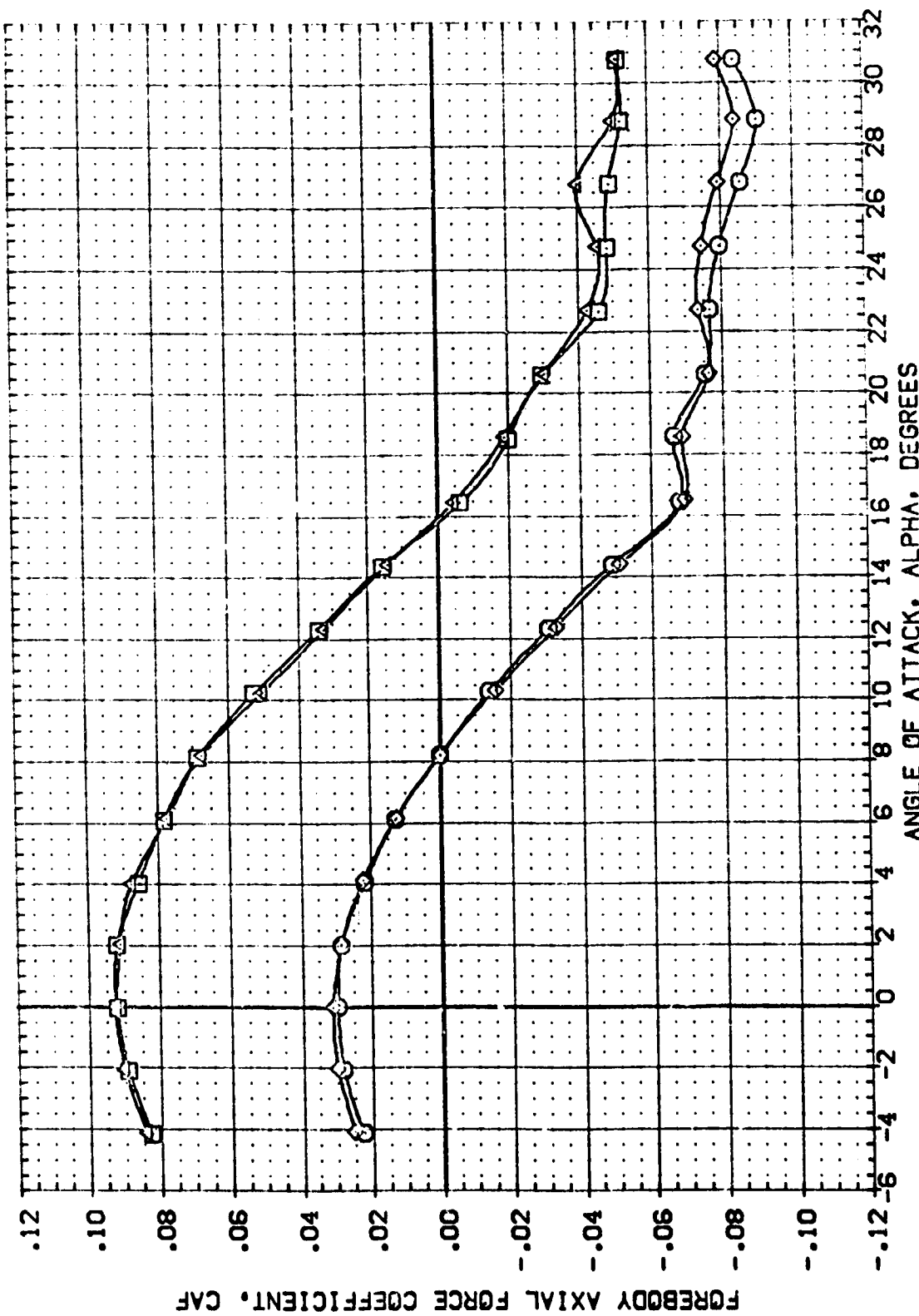


FIGURE 91 CONFIG 139B Z5 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

| | | | | | | |
|-----------------|--------------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPEEDK | BOFLAP | REFERENCE INFORMATION |
| (ED2231) | 0A21B B1SC7 MAFS VIGTEZ3V7R6C5 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED2232) | 0A21B B1SC7 MAFS VIGTEZ3V7R6C5 | .000 | .000 | 25.000 | -18.000 | LREF 19.2239 INCHES |
| (ED2243) | 0A21B B1SC7 MAFS VIGTEZ3V7R6C5 | .000 | .000 | 25.000 | -18.000 | BREF 37.9533 INCHES |
| (ED2242) | 0A21B B1SC7 MAFS VIGTEZ3V7R6C5 | .000 | .000 | 25.000 | -18.000 | YREF 43.5974 INCHES |
| | | | | | | ZREF .0000 INCHES |
| | | | | | | SCALE 16.2000 INCHES |
| | | | | | | SCALE .0405 |

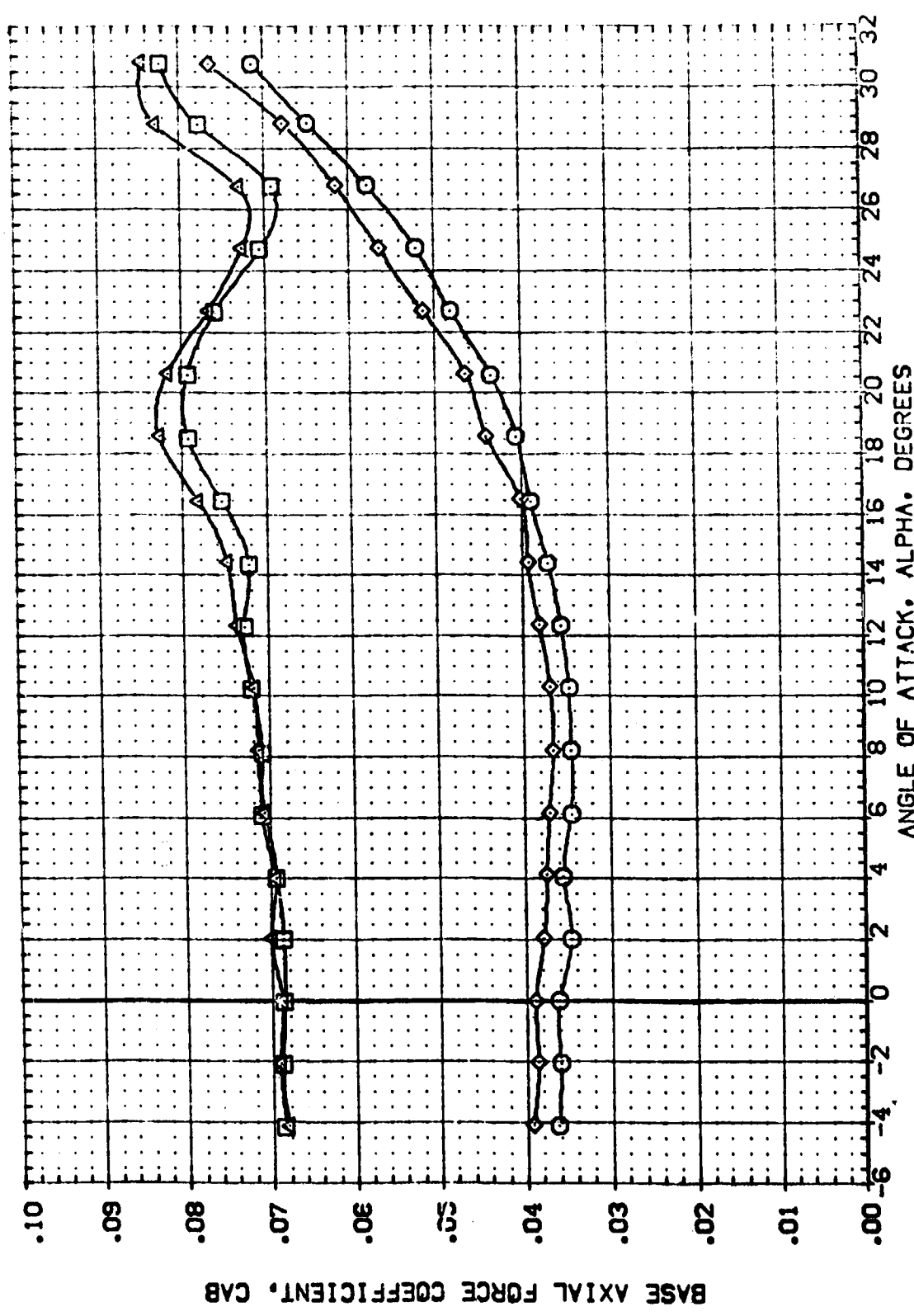


FIGURE 91 CONFIG 139B Z5 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

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| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|---------|---------|---------|-----------------------|
| (ED231) | 0A218 B1SC7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED226) | 0A218 B1SC7 M4FS V107E23V7R6Z5 | .000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ED243) | 0A218 B1SC7 M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 37.9539 INCHES |
| (ED242) | 0A218 B1SC7 M4FS V107E23V7R6Z5 | 5.000 | .000 | 25.000 | -18.000 | XMREF 43.5974 INCHES |
| | | 5.000 | .000 | 25.000 | -18.000 | YMREF 60.000 INCHES |
| | | | | | | ZMREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

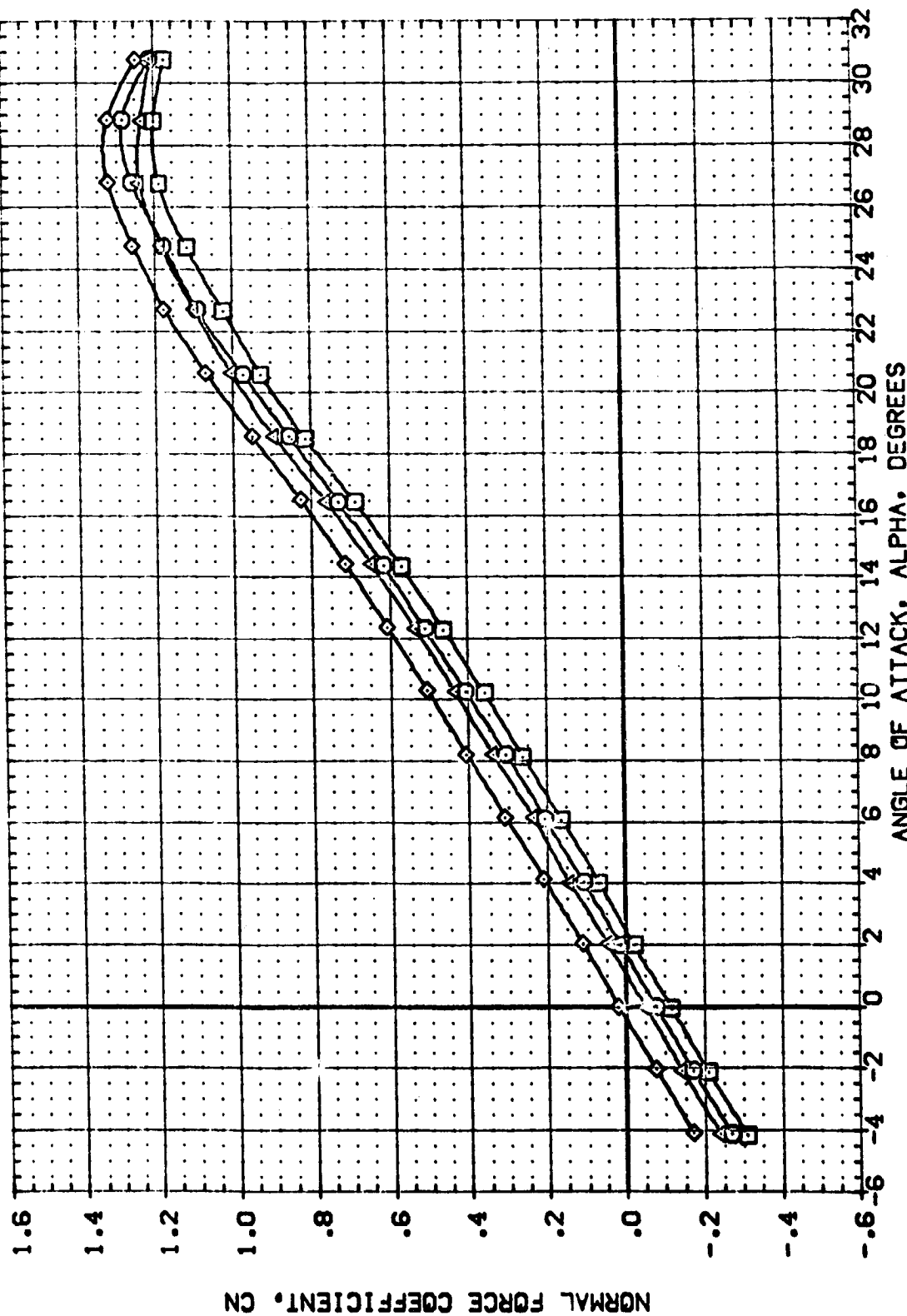


FIGURE 91 CONFIG 1398 75 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

CAMACH = .16

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| DATA SET | SWR | CONF | DESCRIPTION |
|----------|-----|-------|-------------|
| (EDP231) | Q | 04218 | B19C7 |
| (EDP232) | Q | 04218 | B19C7 |
| (EDP233) | Q | 04218 | B19C7 |
| (EDP234) | Q | 04218 | B19C7 |
| (EDP235) | Q | 04218 | B19C7 |
| (EDP236) | Q | 04218 | B19C7 |
| (EDP237) | Q | 04218 | B19C7 |
| (EDP238) | Q | 04218 | B19C7 |
| (EDP239) | Q | 04218 | B19C7 |
| (EDP240) | Q | 04218 | B19C7 |
| (EDP241) | Q | 04218 | B19C7 |
| (EDP242) | Q | 04218 | B19C7 |

| ELEVON | AILRON | SPDRK | BOFLAP | REFERENCE INFORMATION | SO.FT. |
|--------|--------|--------|---------|-----------------------|---------|
| .000 | .000 | 25.000 | -18.000 | SREF | 4.4119 |
| .000 | .000 | 25.000 | -18.000 | LREF | 19.2239 |
| .000 | .000 | 25.000 | -18.000 | BREF | 37.9369 |
| 5.000 | .000 | 25.000 | -18.000 | XMRP | 43.5971 |
| | | | | YMRP | .0000 |
| | | | | ZMRP | 15.2000 |
| | | | | SCALE | .0405 |

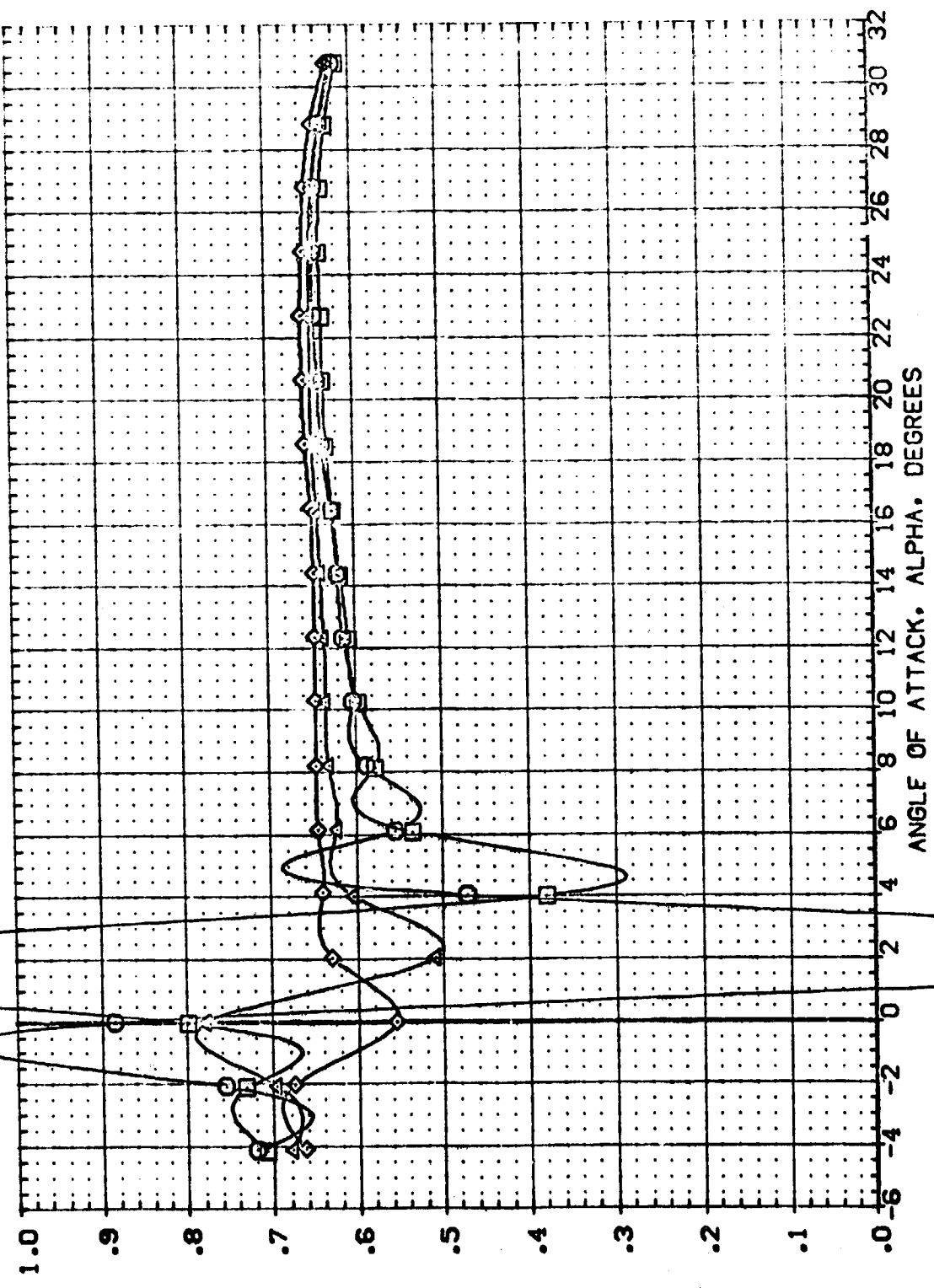


FIGURE 91 CONFIG 1398 Z5 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|---------|---------|---------|-----------------------|
| (ED2231) | 0A21B B1SC7 M4F5 V107E23V7R6 | .000 | .000 | 23.000 | -18.000 | SREF 4.4119 50.FT. |
| (ED2236) | 0A21B B1SC7 M4F5 V107E23V7R6 | .000 | .000 | 23.000 | -18.000 | LREF 19.2298 INCHES |
| (ED2243) | 0A21B B1SC7 M4F5 V107E23V7R6 | 5.000 | .000 | 23.000 | -18.000 | BREF 37.9359 INCHES |
| (ED2242) | 0A21B B1SC7 M4F5 V107E23V7R6 | 5.000 | .000 | 23.000 | -18.000 | YREF 43.5374 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0105 |

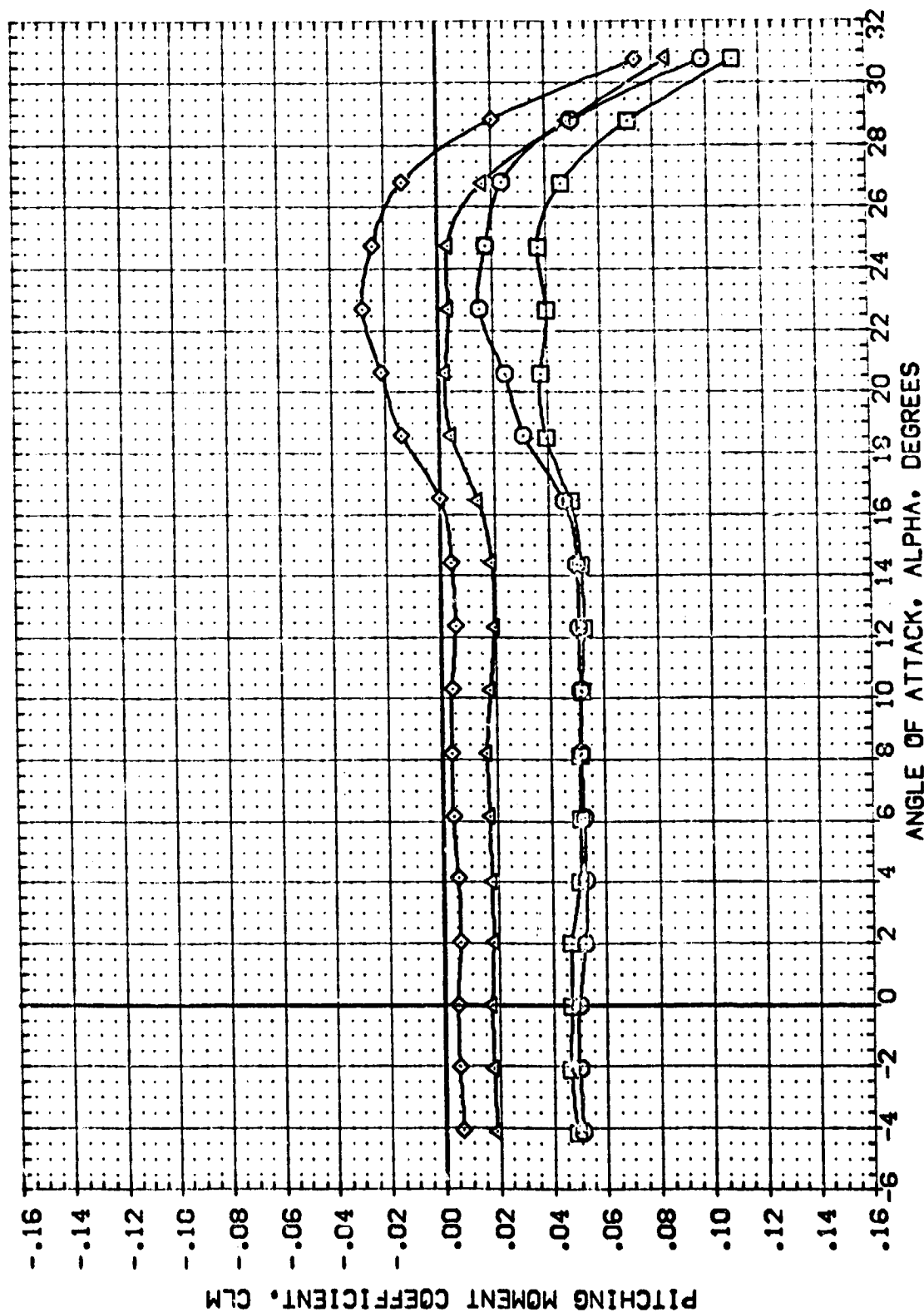


FIGURE 91 CONFIG 139B Z5 SPEED BRAKE INFLUENCE ON ELEVON EFFECTIVENESS

(A)MACH = .16

DATA SET SYMBO. CONFIGURATION DESCRIPTION

| | | | | |
|----------|-------|-------|------|-------------|
| (EDP182) | 8A218 | 819C7 | M4F5 | V107E23V7R6 |
| (EDP184) | 8A218 | 819C7 | M4F5 | V107E23V7R6 |
| (EDP193) | 8A218 | 819C7 | M4F5 | V107E23V7R6 |

REFERENCE INFORMATION

| | | |
|-------|---------|--------|
| SREF | 4.4119 | SO.FT. |
| LREF | 19.2793 | INCHES |
| BREF | 37.9339 | INCHES |
| XRIP | 43.5374 | INCHES |
| YRIP | .0000 | INCHES |
| ZRIP | 16.2000 | INCHES |
| SCALE | .0405 | SCALE |

ELEVON .000 .000 .000
 AIRLON .000 .000 .000
 SPDBRK .000 25.000 55.000
 BOFLAP -18.000 -18.000 -18.000

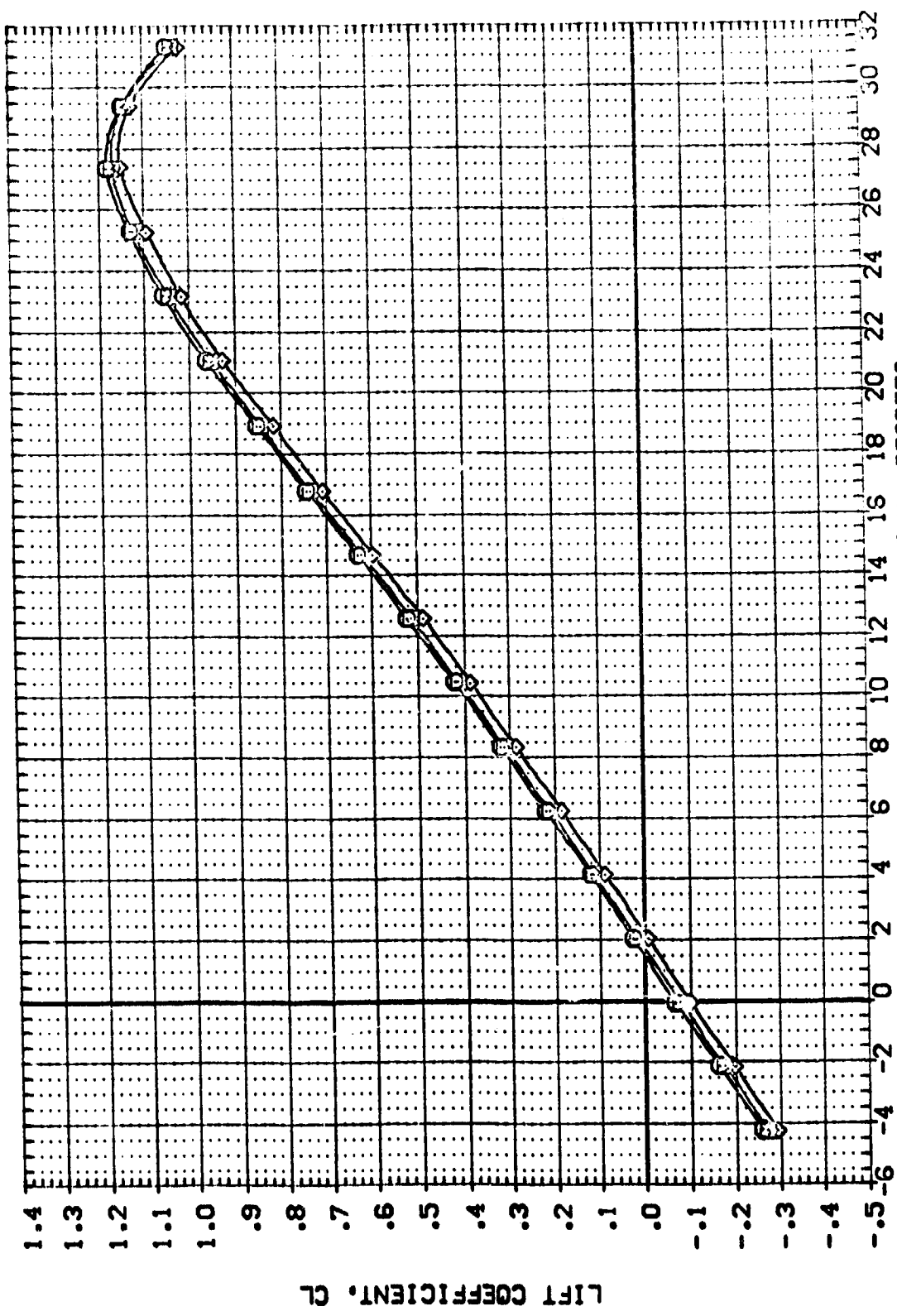


FIGURE 92 CONFIG 139B EFFECT OF SPEED BRAKE DEFLECTION

(A)MACH = .26

| | | | | | | |
|-----------------|------------------------------|--------|---------|-------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDRK | BOFLAP | REFERENCE INFORMATION |
| (EDP182) | 0A218 B1SC7 MAFS V107E23V7R6 | .000 | .000 | .000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP184) | 0A218 B1SC7 MAFS V107E23V7R6 | .000 | .000 | .000 | -18.000 | LREF 19.2289 INCHES |
| (EDP193) | 0A218 B1SC7 MAFS V107E23V7R6 | .000 | .000 | .000 | -18.000 | BREF 37.5559 INCHES |
| | | | | | | XREF 43.5574 INCHES |
| | | | | | | YREF .0700 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

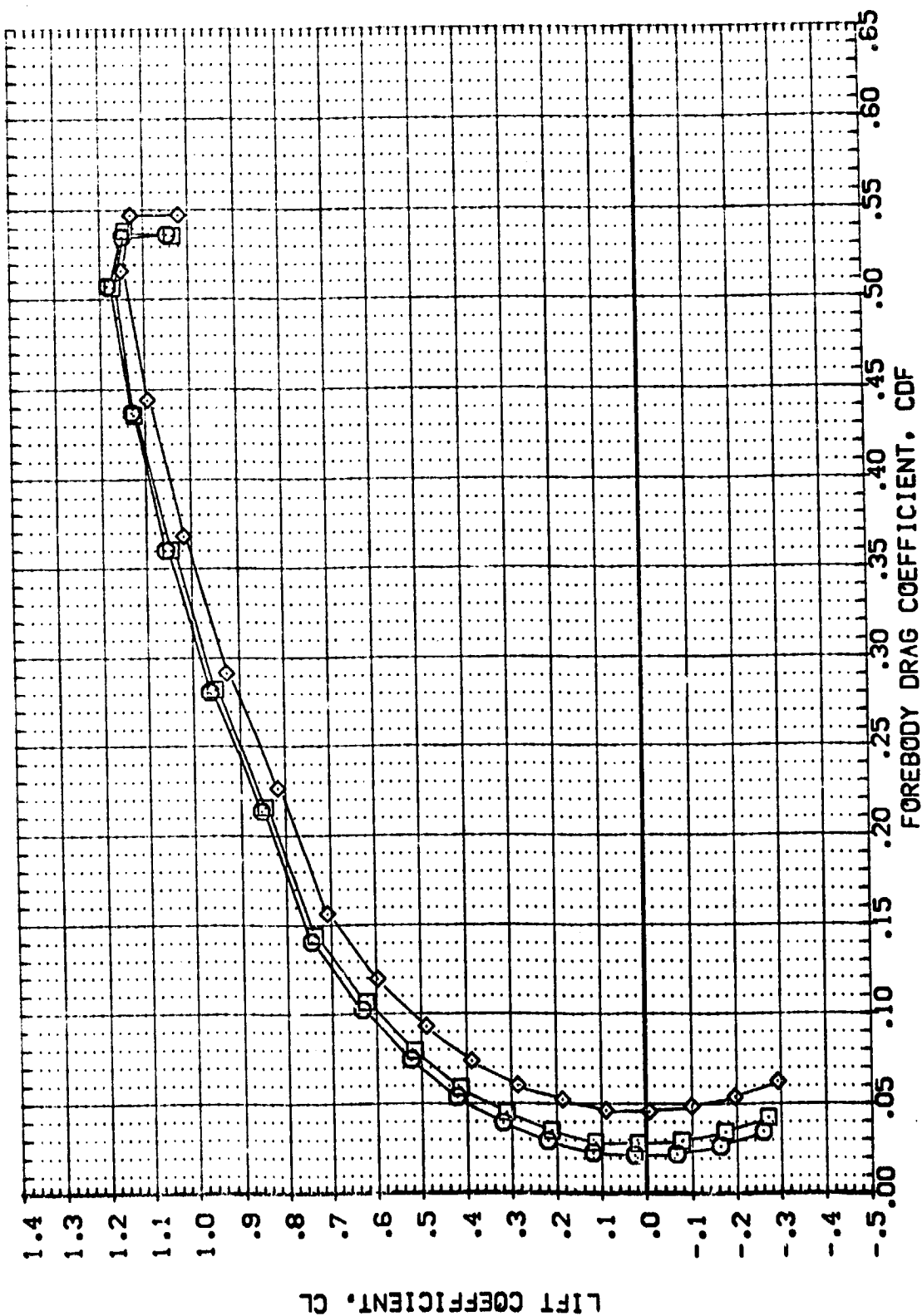


FIGURE 92 CONFIG 139B EFFECT OF SPEED BRAKE DEFLECTION

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | | |
|----------|-----------------|-------------|
| (EDP182) | 0A218 819C7 MFS | V107E23V7R6 |
| (EDP184) | 0A218 819C7 MFS | V107E23V7R6 |
| (EDP183) | 0A218 819C7 MFS | V107E23V7R6 |

ELEVON AILERON SPOILER BOFLAP

| | | | |
|------|------|--------|---------|
| .000 | .000 | .000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 55.000 | -18.000 |

REFERENCE INFORMATION

| | | |
|-------|---------|--------|
| SREF | 4.4119 | SQ.FT. |
| LREF | 19.2289 | INCHES |
| BREF | 37.9359 | INCHES |
| XGRP | 43.5974 | INCHES |
| YGRP | 16.0000 | INCHES |
| ZGRP | 16.2000 | INCHES |
| SCALE | .0405 | SCALE |

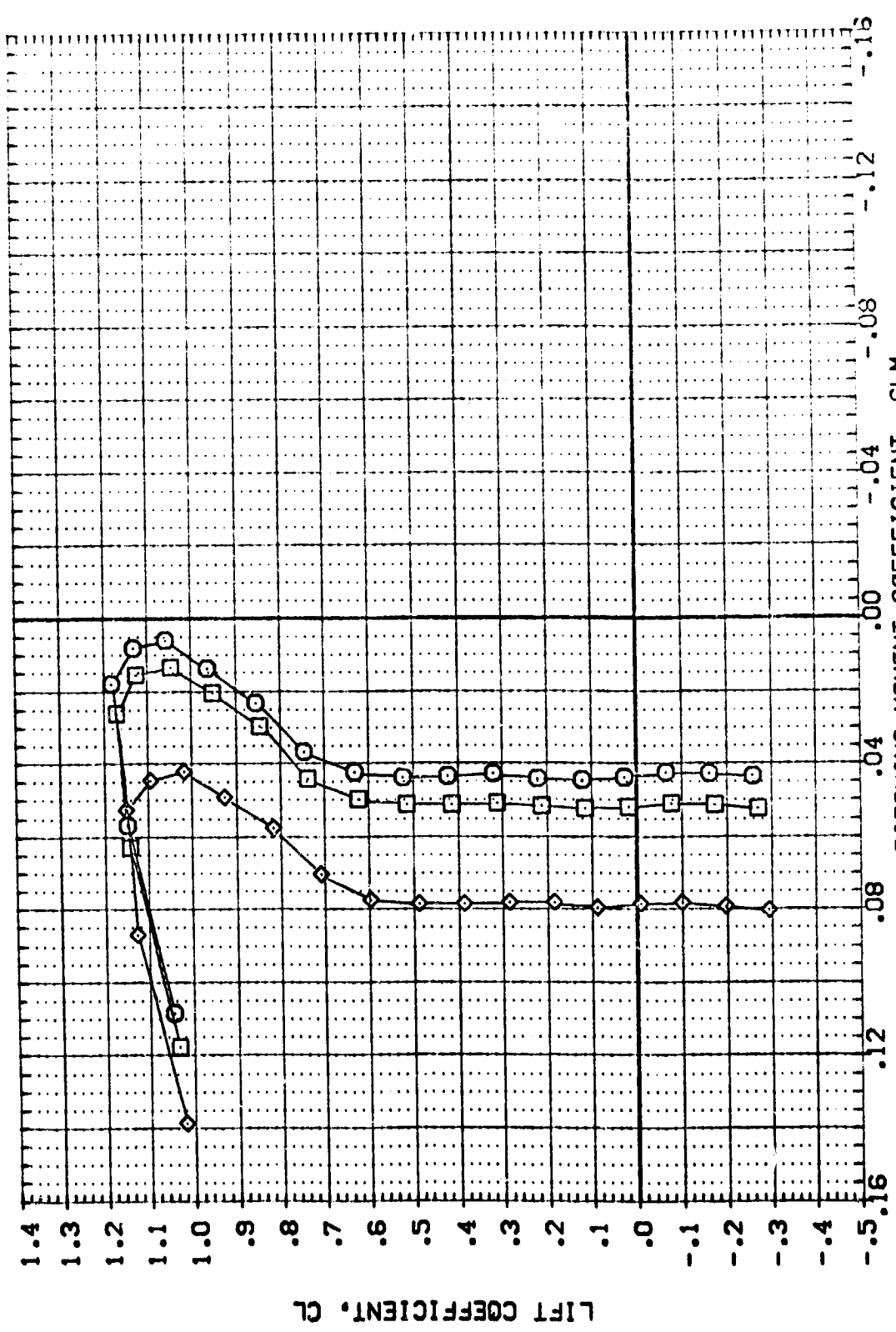


FIGURE 92 CONFIG 139B EFFECT OF SPEED BRAKE DEFLECTION

CLMACH = .26

| | | | | | | | | | | | | | |
|-----------------|-------|---------------------------|------|-------------|------|--------|------|--------|---------|--------|---------|-----------------------|--|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | ELEVON | | AILRON | | SPDRBK | | BOFLAP | | REFERENCE INFORMATION | |
| [EDP182] | 0A21B | 819C7 | M4F5 | V107E23V7R6 | .000 | .000 | .000 | .000 | -18.000 | SREF | 4.4119 | 50.FT. | |
| [EDP183] | 0A21B | 819C7 | M4F5 | V107E23V7R6 | .000 | .000 | .000 | .000 | -18.000 | LREF | 19.2299 | INCHES | |
| [EDP184] | 0A21B | 819C7 | M4F5 | V107E23V7R6 | .000 | .000 | .000 | .000 | -18.000 | BREF | 37.5359 | INCHES | |
| [EDP185] | 0A21B | 819C7 | M4F5 | V107E23V7R6 | .000 | .000 | .000 | .000 | -18.000 | XREF | 43.5674 | INCHES | |
| [EDP186] | 0A21B | 819C7 | M4F5 | V107E23V7R6 | .000 | .000 | .000 | .000 | -18.000 | YREF | 16.0000 | INCHES | |
| [EDP187] | 0A21B | 819C7 | M4F5 | V107E23V7R6 | .000 | .000 | .000 | .000 | -18.000 | ZREF | 16.2000 | INCHES | |
| [EDP188] | 0A21B | 819C7 | M4F5 | V107E23V7R6 | .000 | .000 | .000 | .000 | -18.000 | SCALE | .0405 | SCALE | |

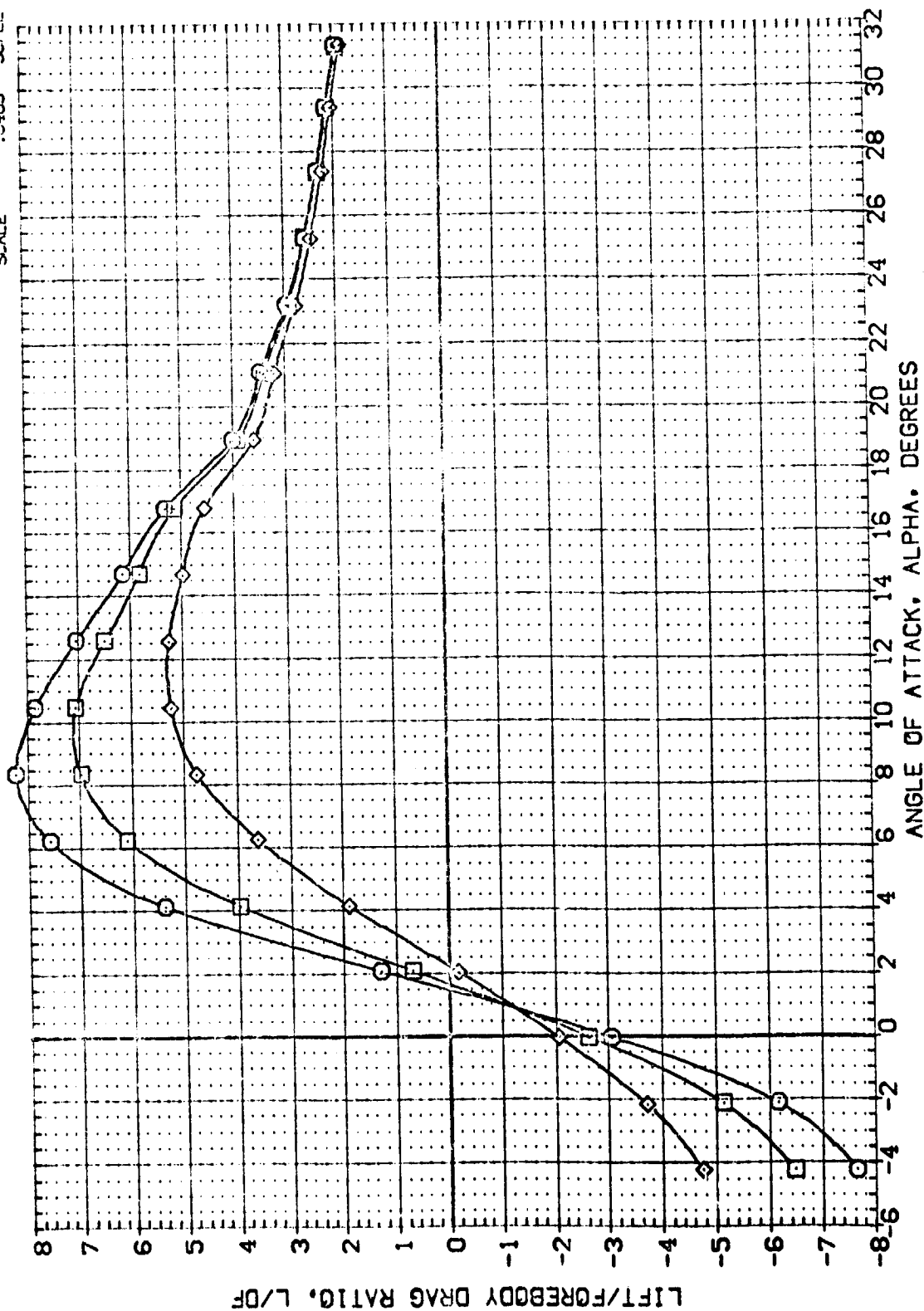


FIGURE 92 CONFIG 1398 EFFECT OF SPEED BRAKE DEFLECTION

CAJ MACH = .26

| | | | | | | |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AIRLON | SPOBRK | BOFLAP | REFERENCE INFORMATION |
| (EDP182) | 0A218 815C7 MAFS V107EZ3V7R6 | .000 | .000 | .000 | -18.000 | SREF 4.4119 SO.FT. |
| (EDP184) | 0A218 815C7 MAFS V107EZ3V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2253 INCHES |
| (EDP183) | 0A218 815C7 MAFS V107EZ3V7R6 | .000 | .000 | 55.000 | -18.000 | BREF 37.9109 INCHES |
| | | | | | | XREF 43.5574 INCHES |
| | | | | | | YREF 16.0000 INCHES |
| | | | | | | ZREF 16.0000 INCHES |
| | | | | | | SCALE .0405 INCHES |

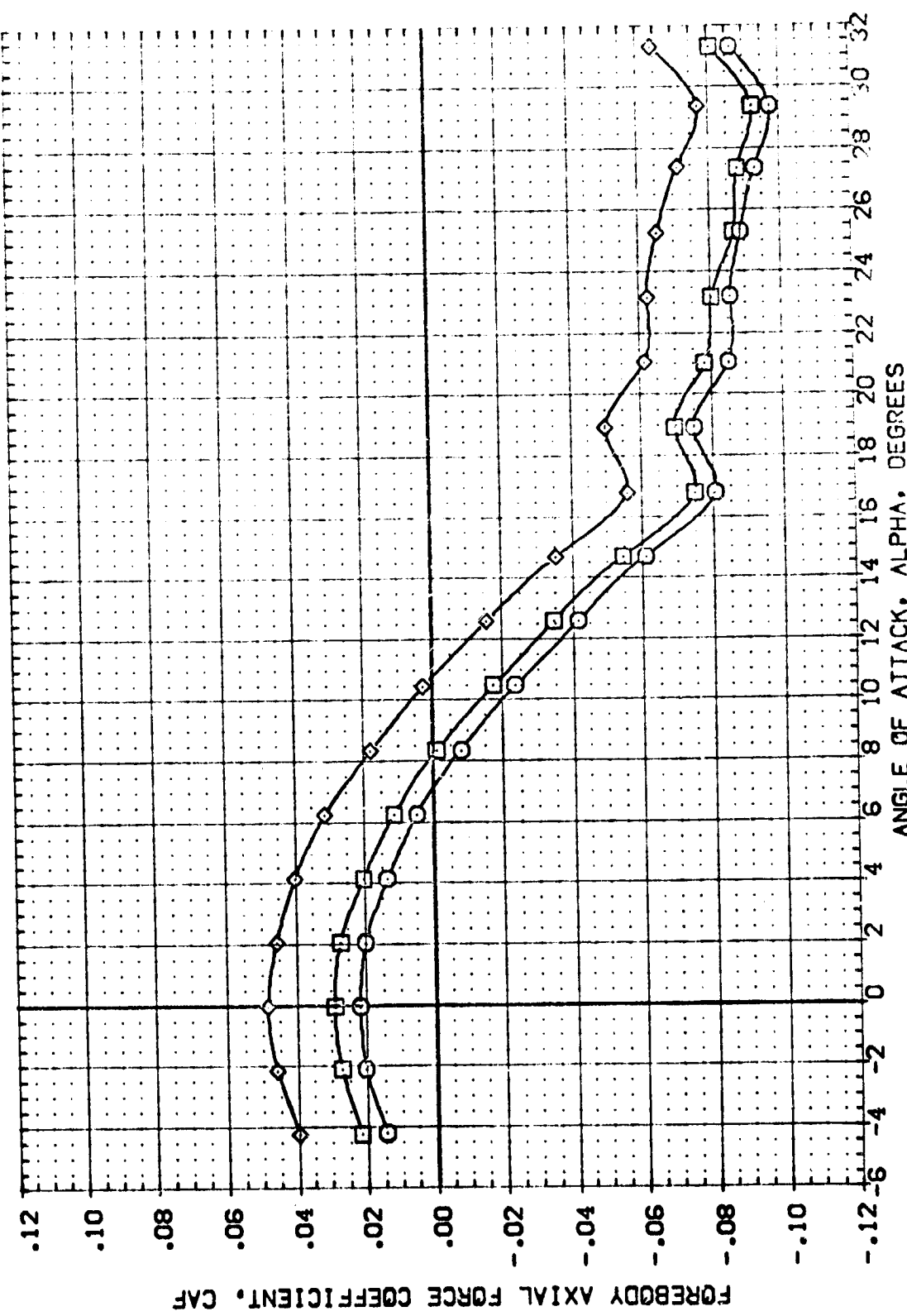


FIGURE 92 CONFIG 139B EFFECT OF SPEED BRAKE DEFLECTION

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | | | | |
|----------|-------|-------|------|-------------|
| (EDP182) | GA21B | B18C7 | M4F5 | V107E23V7R6 |
| (EDP183) | GA21B | B18C7 | M4F5 | V107E23V7R6 |
| (EDP184) | GA21B | B18C7 | M4F5 | V107E23V7R6 |

REFERENCE INFORMATION

| | | |
|-------|---------|--------|
| SREF | 4.4119 | SO.FT. |
| LREF | 19.2289 | INCHES |
| EREF | 37.5339 | INCHES |
| XMRP | 43.5374 | INCHES |
| YMRP | 0.000 | INCHES |
| ZMRP | 16.2000 | INCHES |
| SCALE | 0.0405 | INCHES |

ELEVON AILRON SPOBRK BOFLAP

| | | | |
|------|------|--------|---------|
| .000 | .000 | .000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 55.000 | -18.000 |

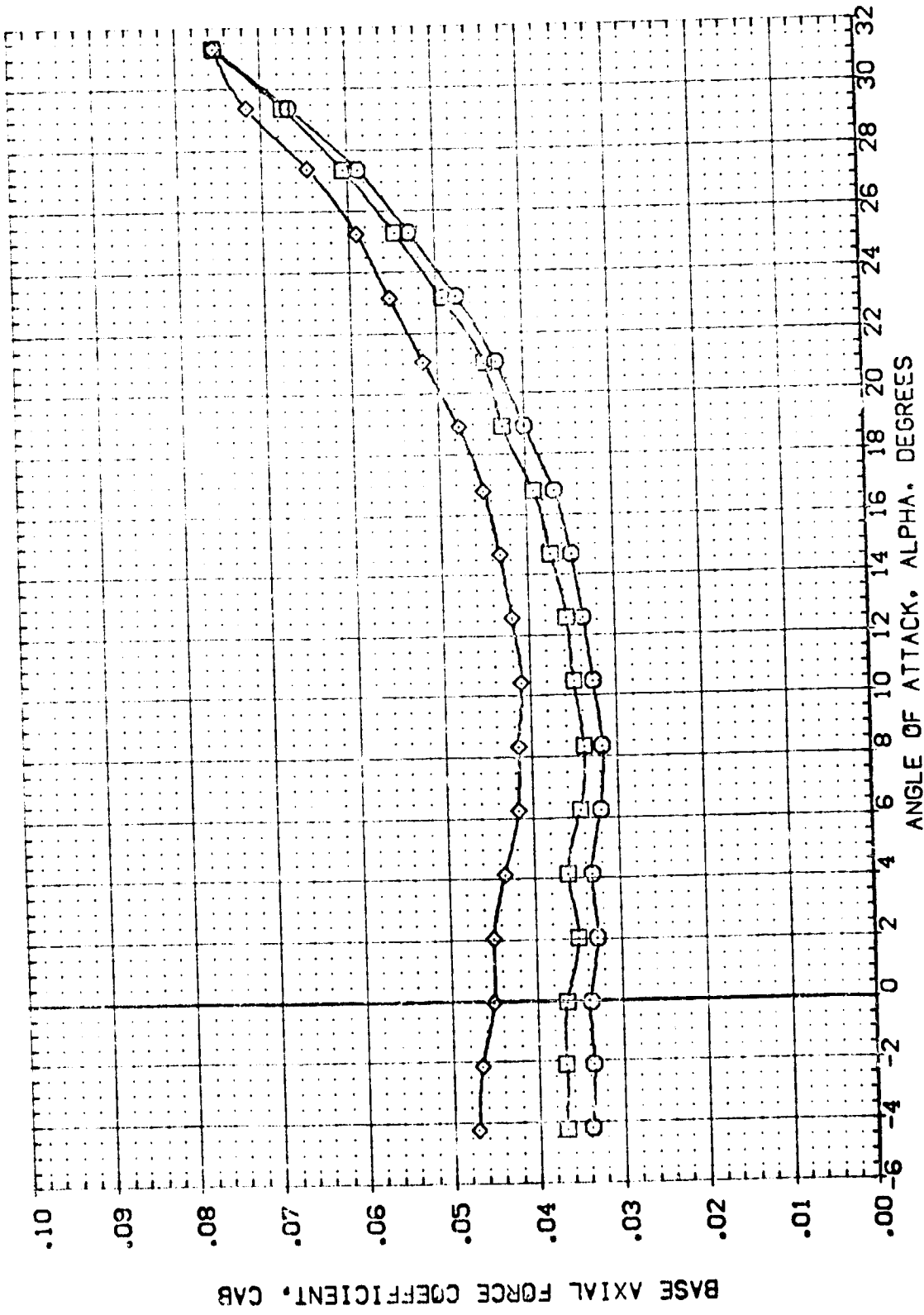


FIGURE 92 CONFIG 139B EFFECT OF SPEED BRAKE DEFLECTION

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP182) Q421B B19C7 M4FS V107EZ3V7R6
 (EDP184) Q421B B19C7 M4FS V107EZ3V7R6
 (EDP193) Q421B B19C7 M4FS V107EZ3V7R6

ELEVON .000
 .000
 .000
 .000

ALURON .000
 .000
 .000
 .000

SPOBRK .000
 .000
 .000
 .000

BDFLAP -18.000
 -18.000
 -18.000
 -18.000

REFERENCE INFORMATION
 SREF 4.4119 30.57
 LREF 19.7259 30.57
 BREF 37.1150 30.57
 XMRP 43.5574 30.57
 YMRP 0.00 30.57
 ZMRP 16.2000 30.57
 SCALE .0405 30.57

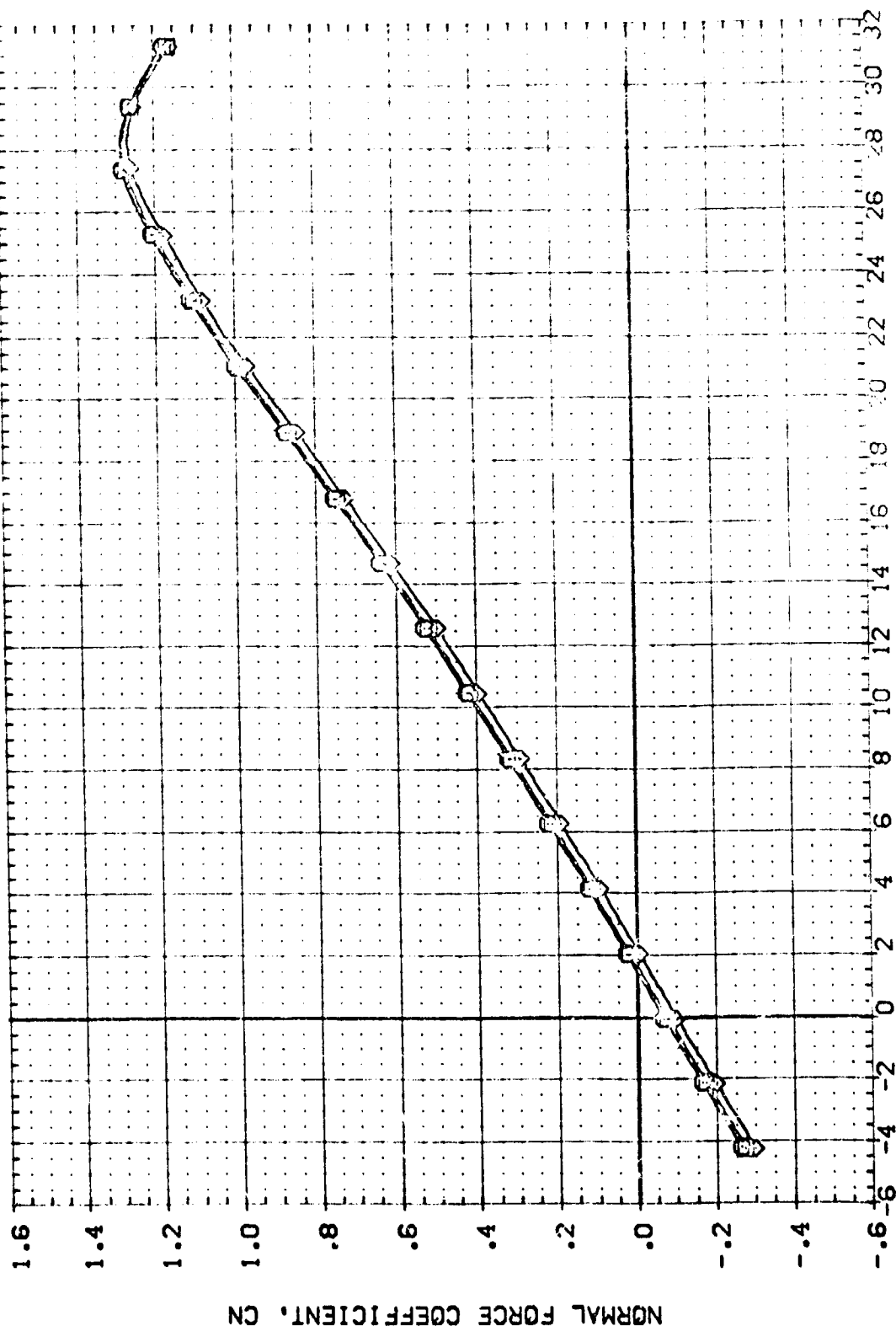


FIGURE 92 CONFIG 139B EFFECT OF SPEED BRAKE DEFLECTION

(M)MACH = .23

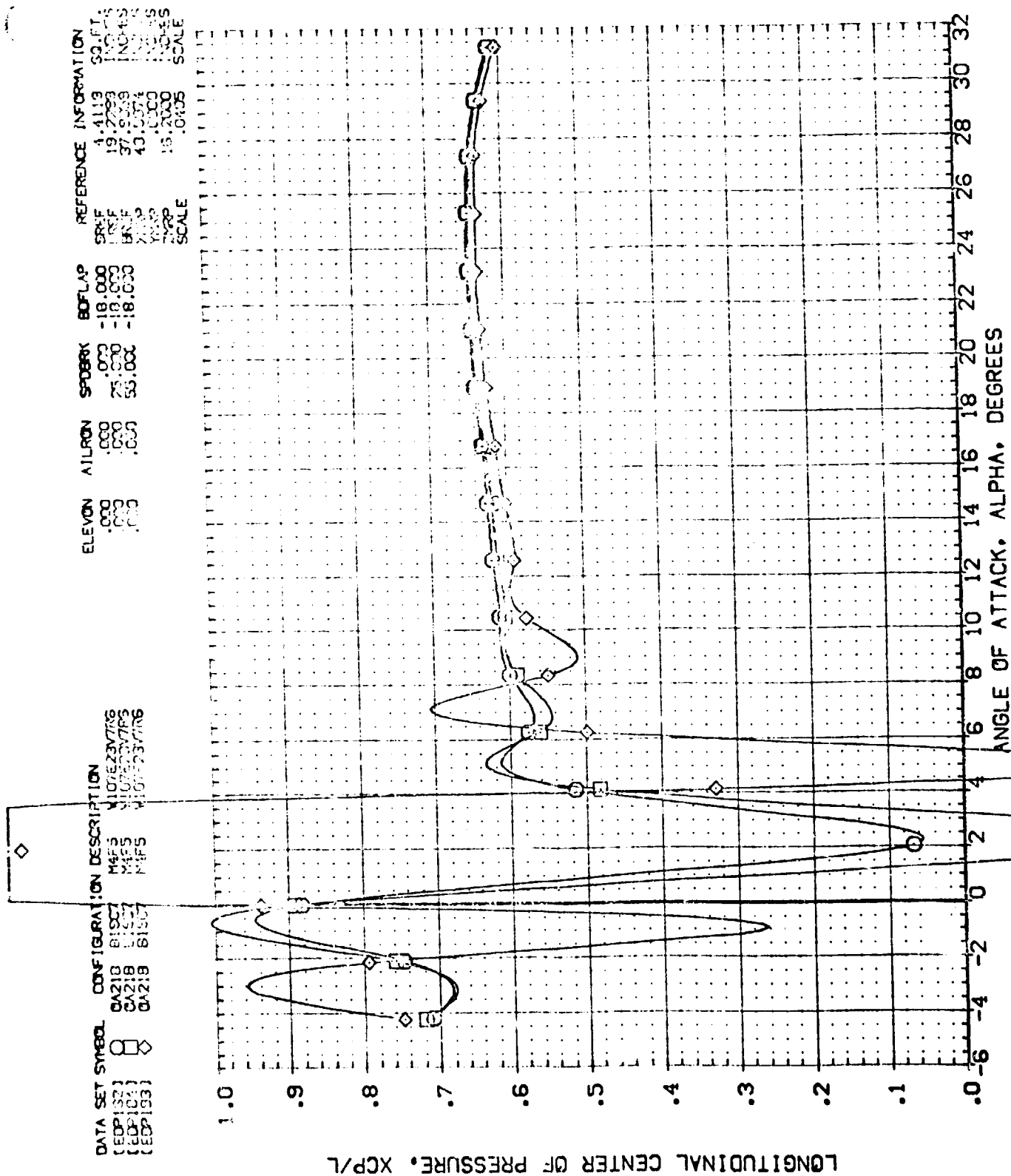


FIGURE 92 CONFIG 1393 EFFECT OF SPEED BRAKE DEFLECTION

[A]MACH = .26

| | | | | | | | | | | | | | |
|-----------------|---|---------------------------|-------|--------|------|---------|------|--------|------|---------|-------|-----------------------|-----------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | ELEVON | | AILERON | | SPORON | | BOFLAP | | REFERENCE INFORMATION | |
| (EDP182) | Q | 0A218 | B19C7 | M4F5 | .000 | .000 | .000 | .000 | .000 | -18.000 | SREF | 4.4119 | 53.1 FT. |
| (EDP183) | ◇ | 0A218 | B19C7 | M4F5 | .000 | .000 | .000 | .000 | .000 | -18.000 | LREF | 19.2283 | 220.0 IN. |
| | | 0A218 | B19C7 | M4F5 | .000 | .000 | .000 | .000 | .000 | -18.000 | SREF | 37.5574 | 220.0 IN. |
| | | | | | | | | | | | YREF | 43.5574 | 220.0 IN. |
| | | | | | | | | | | | YREF | 16.2000 | 220.0 IN. |
| | | | | | | | | | | | SCALE | .0405 | SCALE |

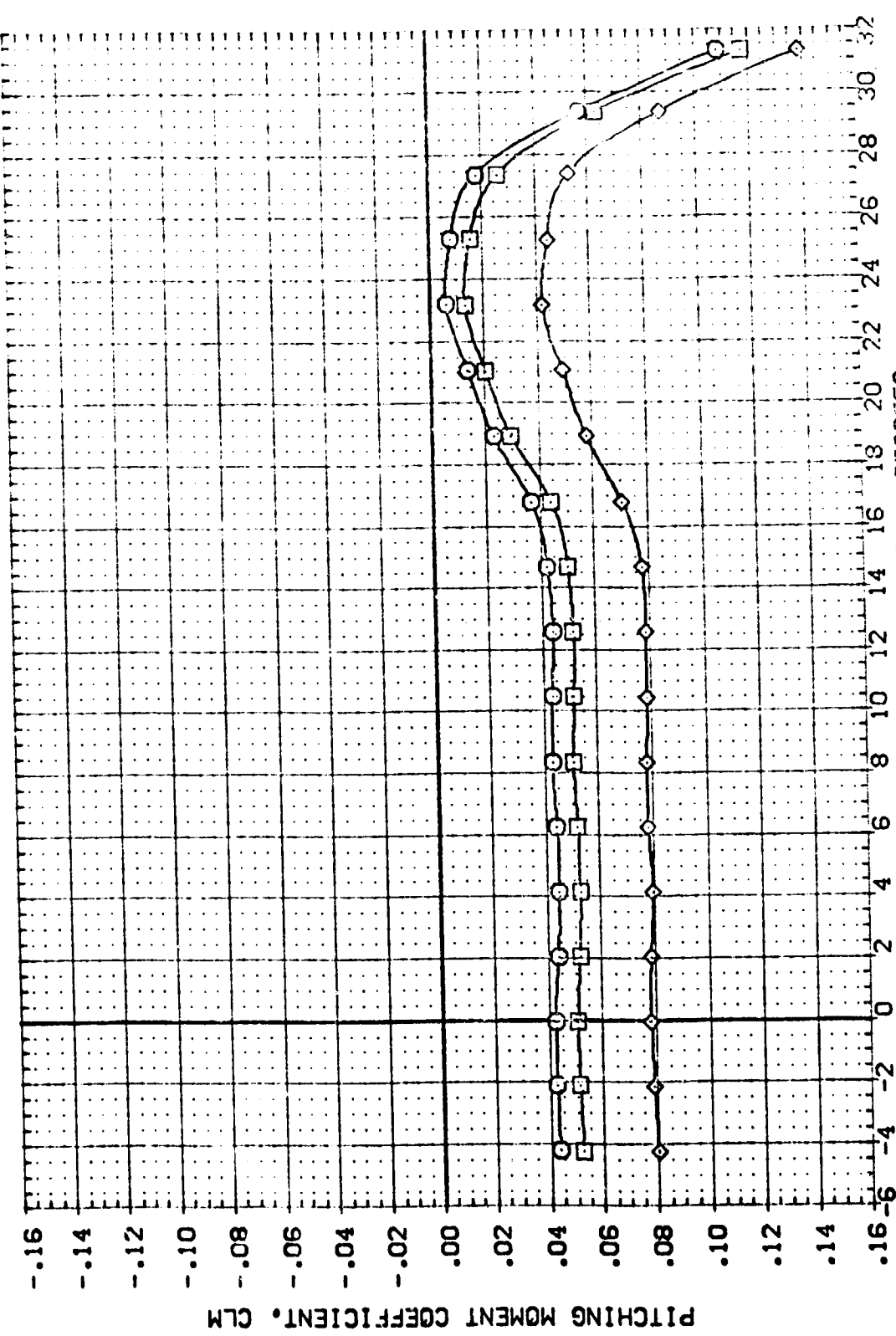


FIGURE 92 CONFIG 139B EFFECT OF SPEED BRAKE DEFLECTION

(A)MACH = .26

| | | | |
|--------|--------|--------|---------|
| ELEVON | AIRLON | SPORON | BOFLAP |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | |

| REFERENCE INFORMATION | |
|-----------------------|----------------|
| SREF | 4.4119 SQ.FT. |
| LREF | 19.7293 INCHES |
| BREF | 37.9339 INCHES |
| XREF | 43.5374 INCHES |
| YREF | .0000 INCHES |
| ZREF | 16.2000 INCHES |
| SCALE | .0405 SCALE |

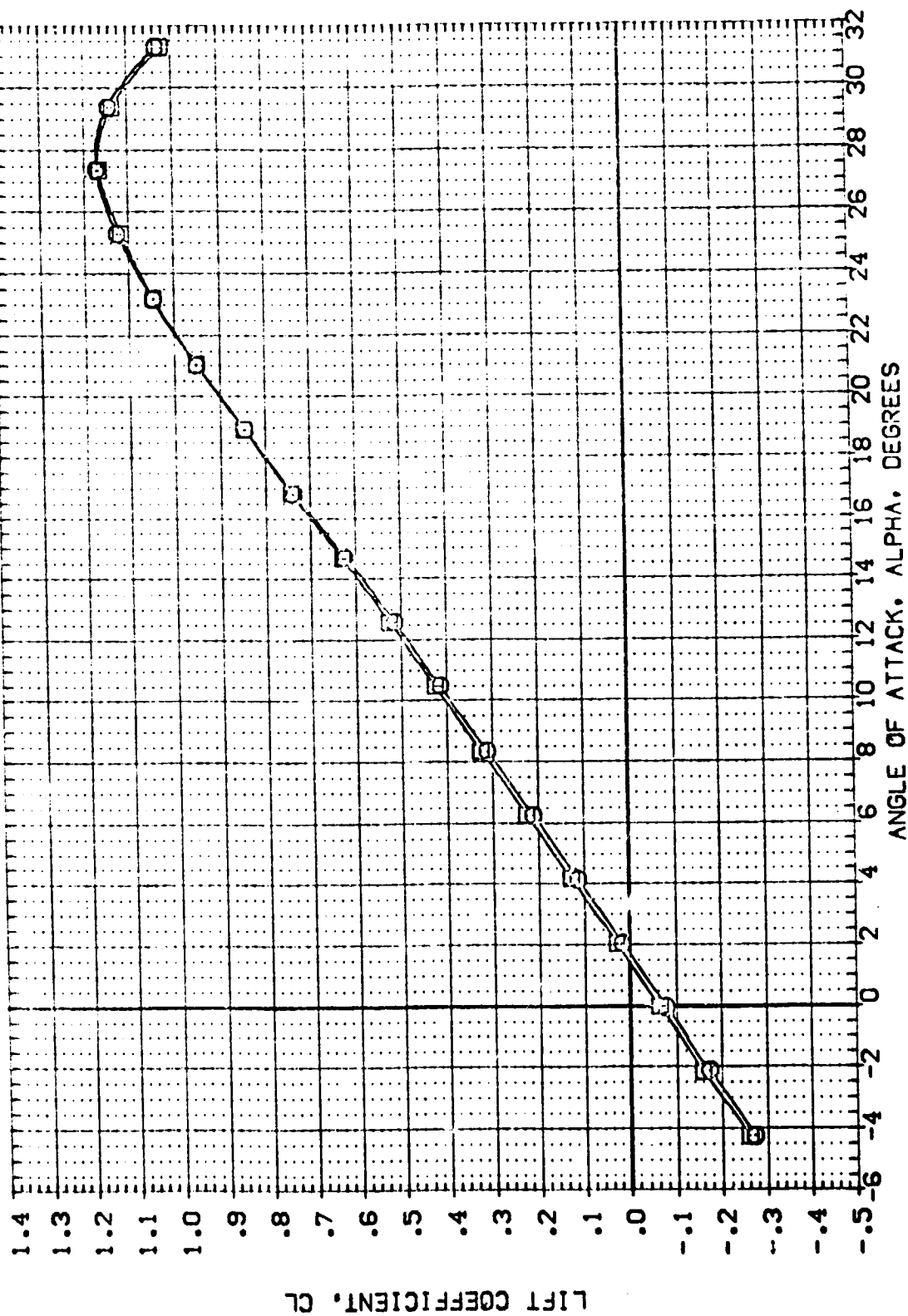


FIGURE 93 CONFIG 1398 EFFECT OF BODY FLAP

CAJMACH = .26

DATA SET 5180L CONFIGURATION DESCRIPTION
 (5180L) 5180L 5180L M4F3 V107E23V718
 (5180L) 5180L 5180L M4F3 V107E23V718

ELEVON AILRON SPDRK BDFLAP
 .000 .000 .000 -18.000
 .000 .000 .000 .000
 REFERENCE INFORMATION
 SREF 4.4119 SO.FT.
 LREF 19.2298 INCHES
 BREF 37.8558 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0105

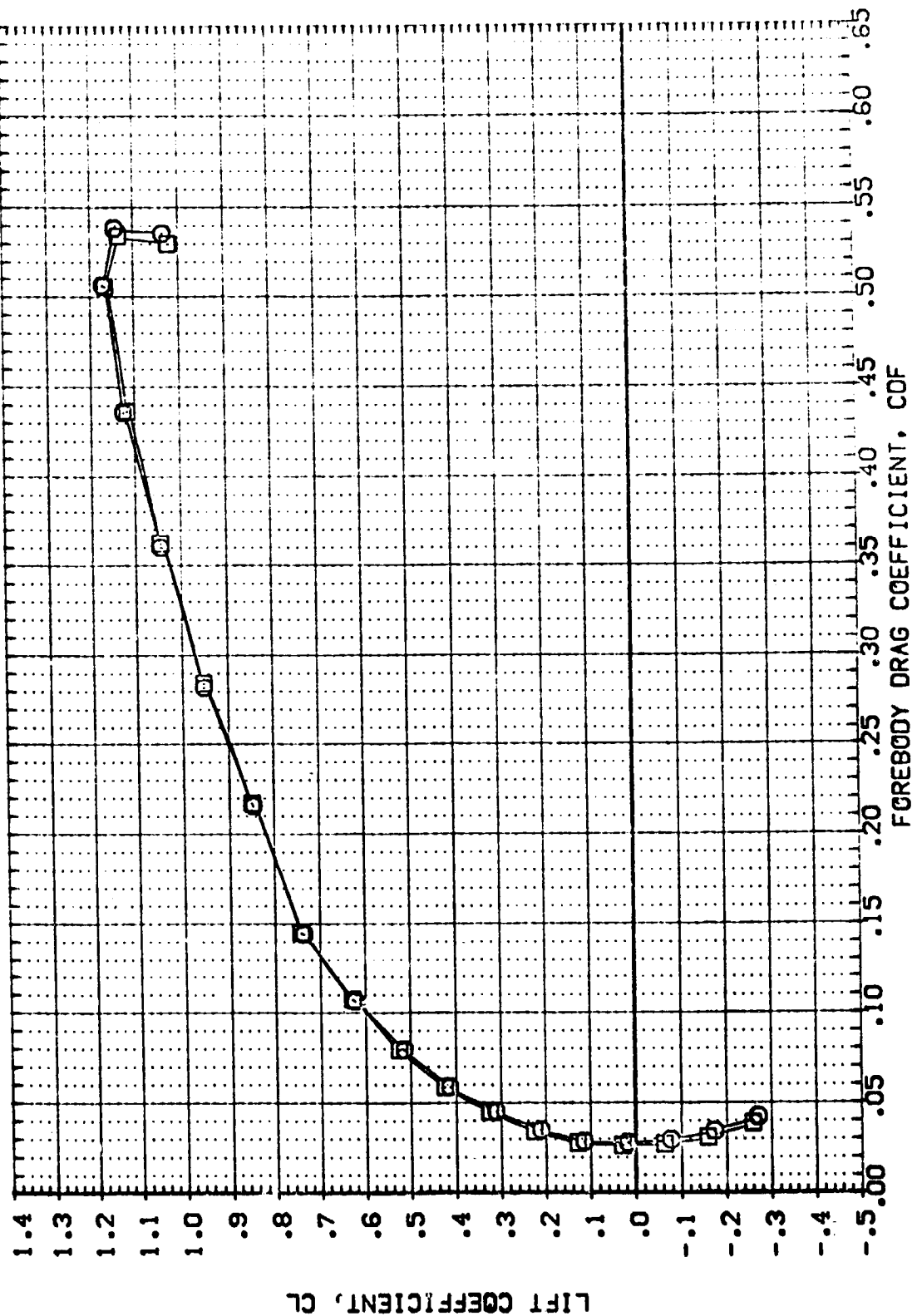


FIGURE 93 CONFIG 1398 EFFECT OF BODY FLAP

(A)MACH = .26



DATA SET SYMBOL CONFIGURATION DESCRIPTION
[EDP184] □ 0A218 B19C7 M4FS V107E23V7R6
[EDP200] □ 0A218 B19C7 M4 V107E23V7R6

ELEVON AILURON SPOBRK BOFLAP REFERENCE INFORMATION
.000 .000 25.000 -18.000 4.4119 50. FT.
.000 .000 25.000 19.2289 INCHES
BOEF 37.5009 INCHES
XMRP 43.5874 INCHES
YMRP 16.0000 INCHES
ZMRP 16.2000 INCHES
SCALE .0405 SCALE

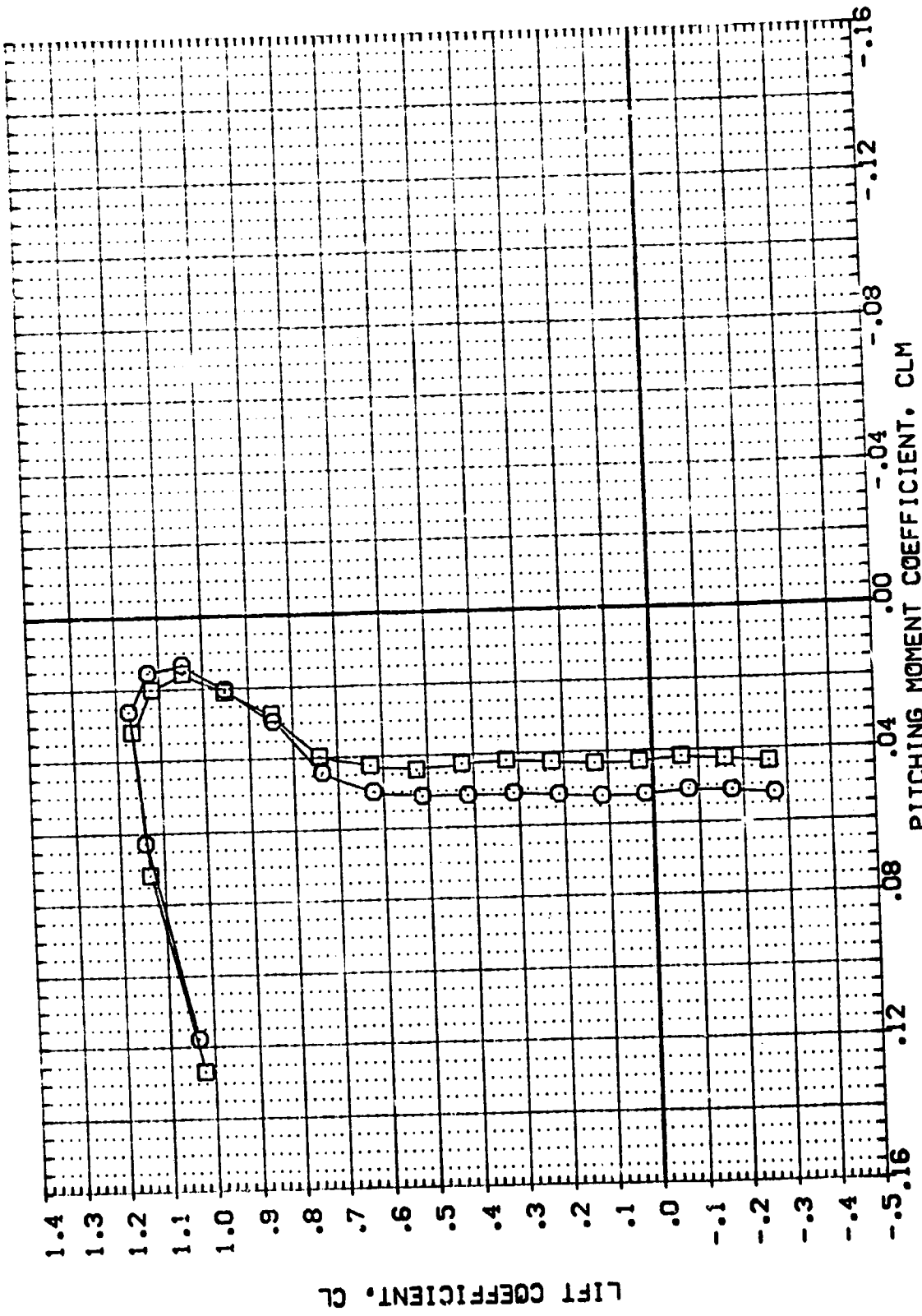


FIGURE 93 CONFIG 139B EFFECT OF BODY FLAP

(A)MACH = .26

| | | | | | | | | | | | |
|-----------------|------|------|-----|---------------------------|-------|---------|---------|-----------------------|---------|---------|--|
| DATA SET SYMBOL | | | | CONFIGURATION DESCRIPTION | | | | REFERENCE INFORMATION | | | |
| (EDP101) | 021B | 01C7 | MPS | VIC0220/7NS | SREF | 4.4119 | SO.FT. | LREF | 19.2233 | INC.FT. | |
| (EDP208) | 021B | 01C7 | M1 | VIC0220/7NS | BREF | 37.9359 | INC.FT. | XMRP | 43.5974 | INC.FT. | |
| | | | | | YMRP | .0000 | INC.FT. | ZMRP | 16.2000 | INC.FT. | |
| | | | | | SCALE | .0405 | SCALE | | | | |

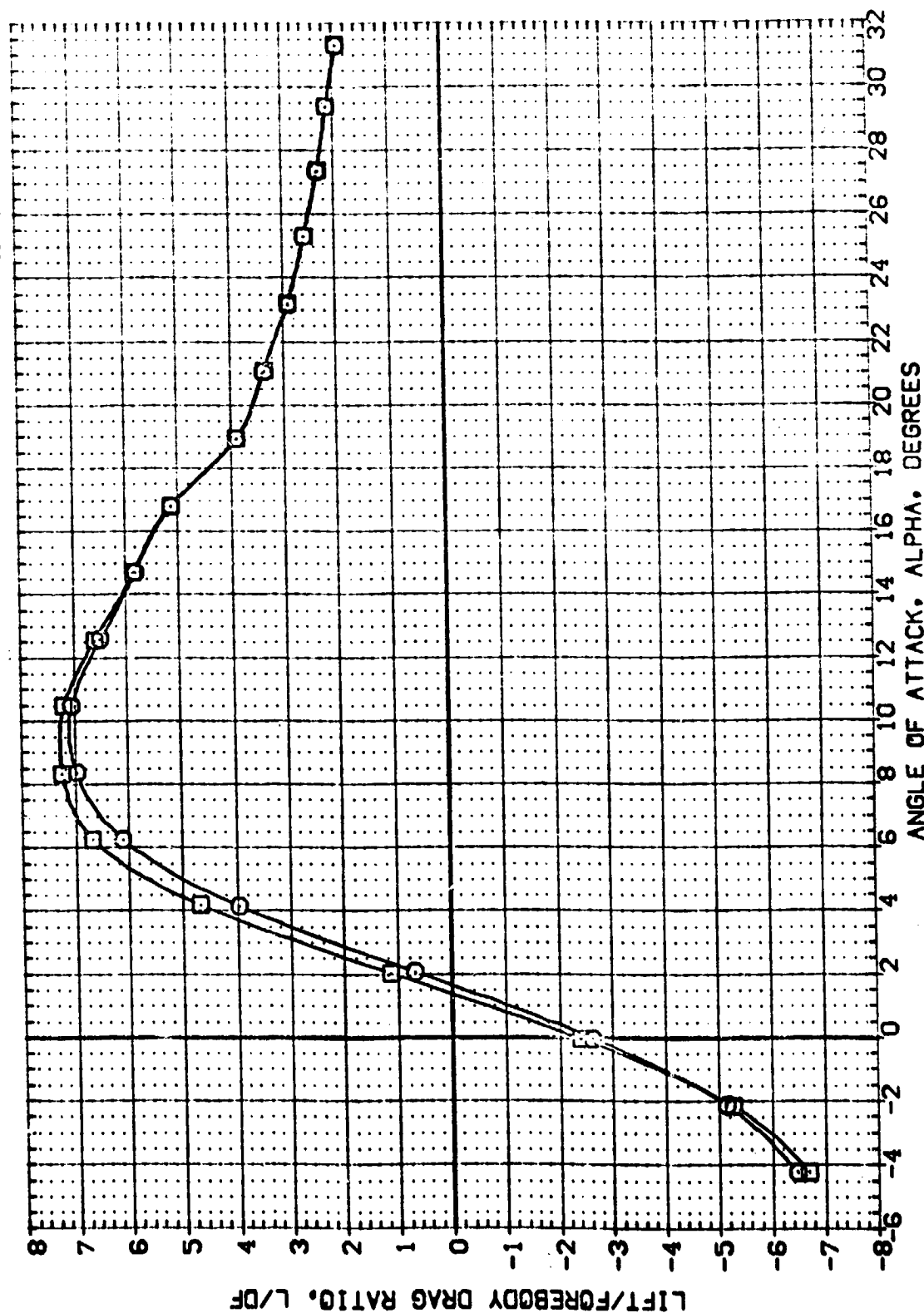


FIGURE 93 CONFIG 139B EFFECT OF BODY FLAP

(MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP184) 0A218 B15C7 MAFS V107E23V7R6
 (EDP200) 0A218 B15C7 M4 V107E23V7R6

ELEVON AILRON SPDRBK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2239 INCHES
 SREF 37.9359 INCHES
 XPRP 43.5974 INCHES
 YPRP .0000 INCHES
 ZPRP 16.2000 INCHES
 SCALE .0405

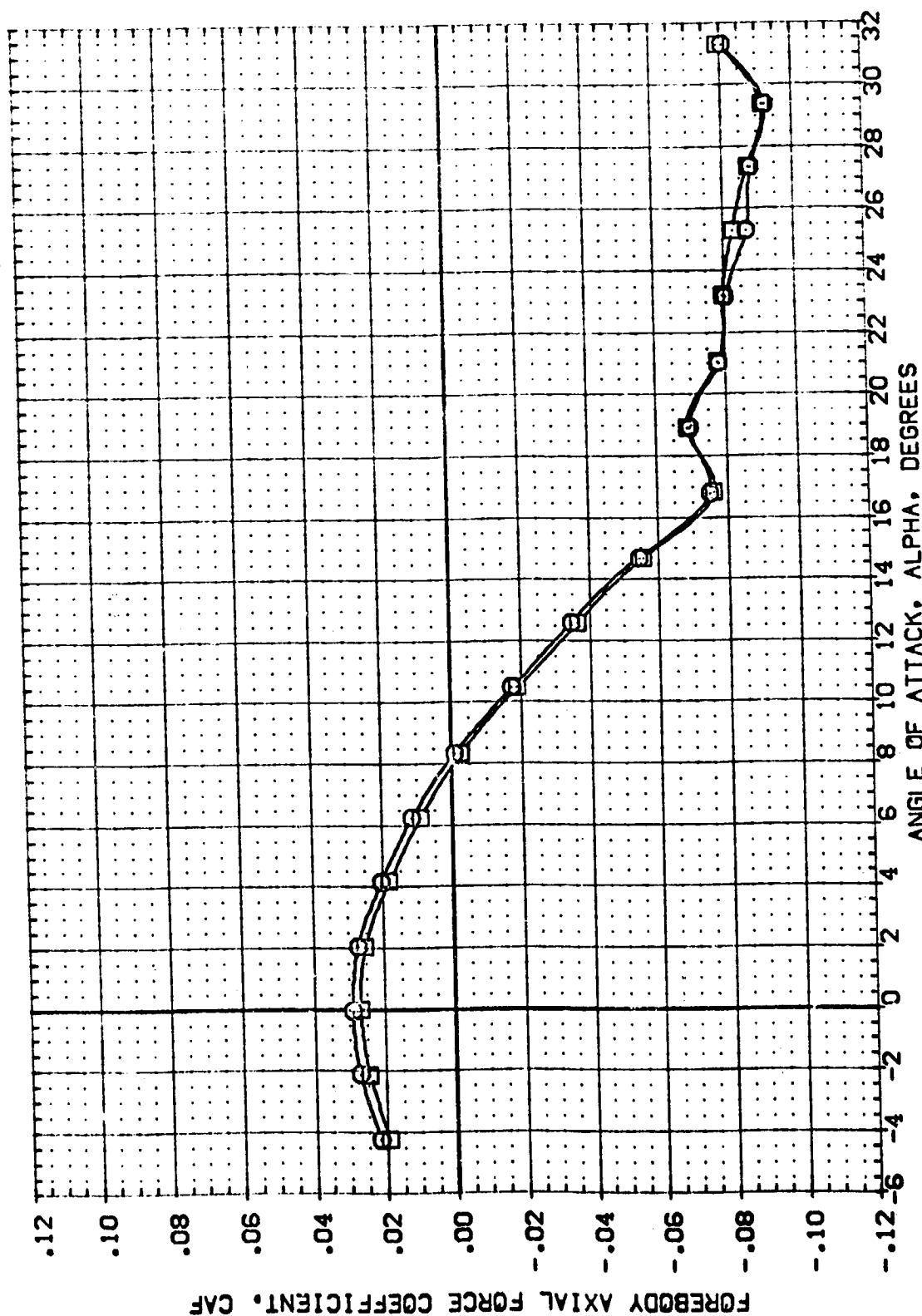


FIGURE 93 CONFIG 139B EFFECT OF BODY FLAP

(CA)MACH = .26

DATA SET SYMBOL: 82218 819C7 MF'S V107E23V7R8
 (EDP194) 82218 819C7 MF V107E23V7R8
 (EDP200) 82218 819C7 MF V107E23V7R8

ELEVON AILRON SPOBRN BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2359 INCHES
 BREF 37.9339 INCHES
 XREF 43.9374 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

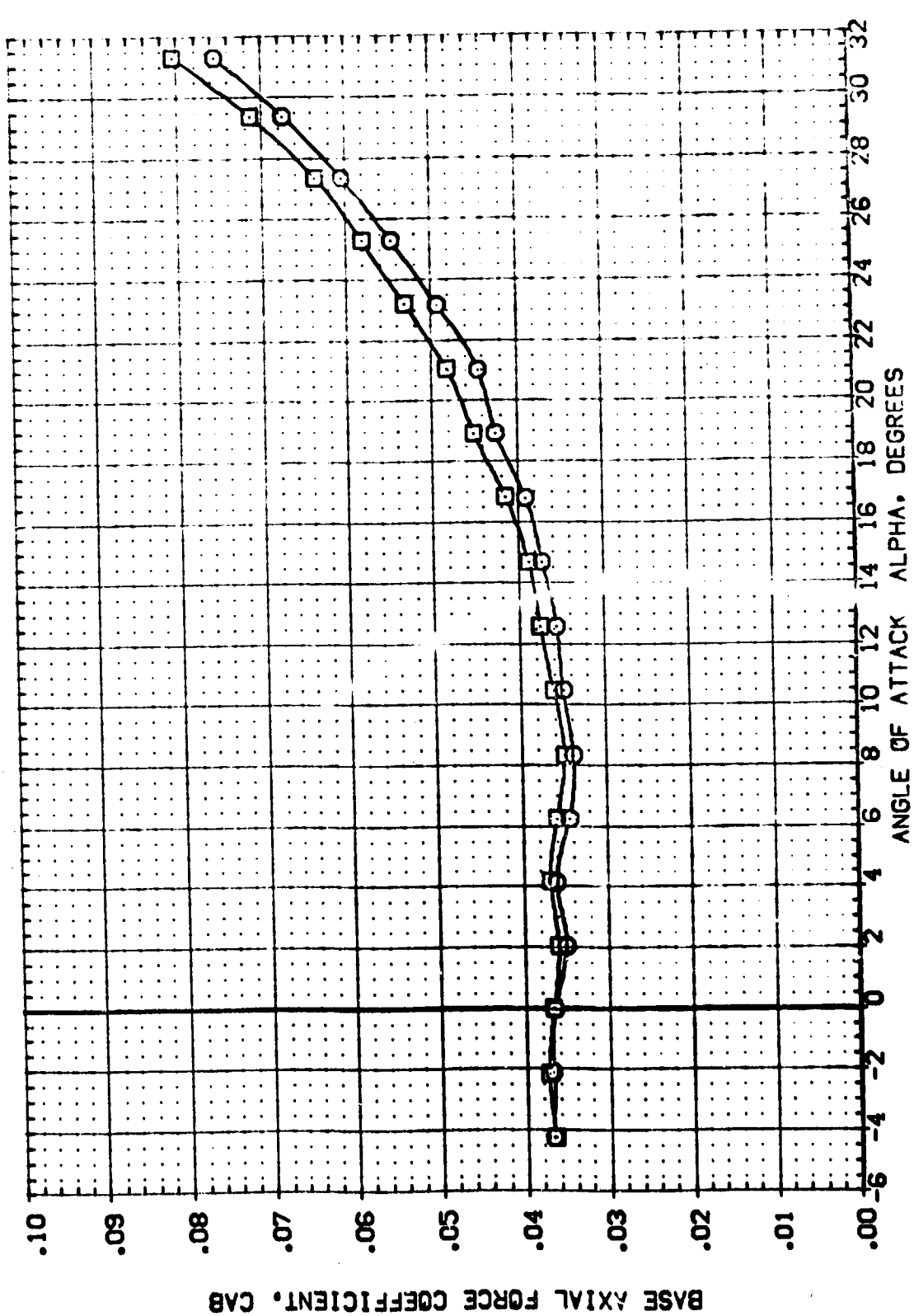


FIGURE 93 CONFIG 1398 EFFECT OF BODY F AP

(M)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP184) CA21B B19C7 M4FS V107E23V7R6
 (EDP200) CA21B B19C7 M4 V107E23V7R6

ELEVON AILRON SPOBRK BOFLAP REFERENCE INFORMATION
 .000 .000 25.000 -19.000 SREF 4.4119 SQ.FT.
 .000 .000 25.000 BREF 19.2299 INCHES
 .000 .000 25.000 XREF 37.9359 INCHES
 .000 .000 25.000 YREF 43.9574 INCHES
 .000 .000 25.000 ZREF 16.2000 INCHES
 .000 .000 25.000 SCALE .0405

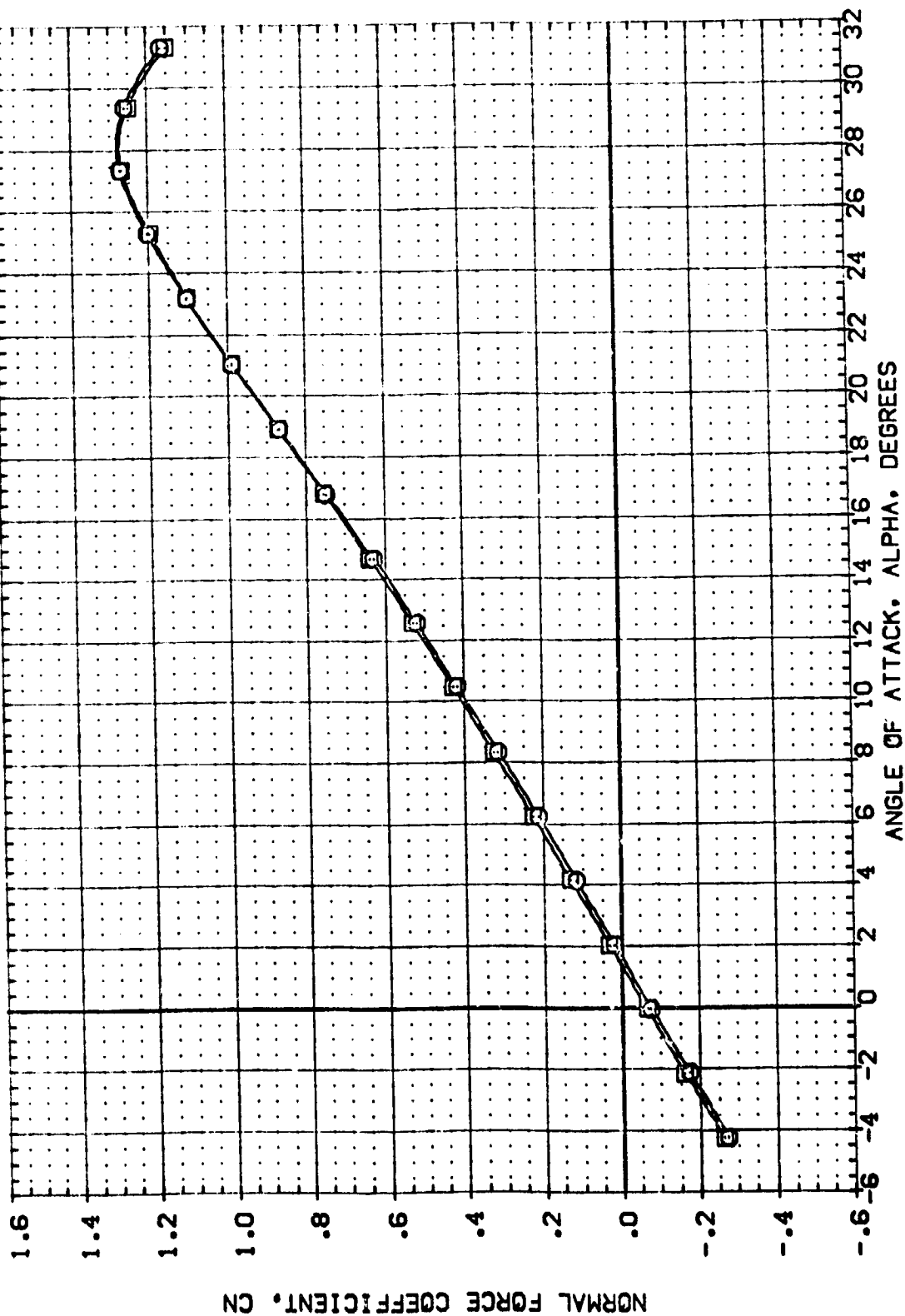


FIGURE 93 CONFIG 139B EFFECT OF BODY FLAP

(AJMACH = .26

DATA SET SYMBOL: 8
 CONFIGURATION DESCRIPTION: 0A218 B15C7 MAFS V107E22V7M5
 0A218 B15C7 M4 V107E22V7M5

ELEVON: .000
 AIRLON: .000
 SPUBRN: 25.000
 BOFLAP: -18.000

REFERENCE INFORMATION:
 SREF: 4.4119 SO.FT.
 LREF: 19.2299 INCHES
 BREF: 37.9303 INCHES
 XREF: 43.5974 INCHES
 YREF: .0000 INCHES
 ZREF: 16.2000 INCHES
 SCALE: .0405

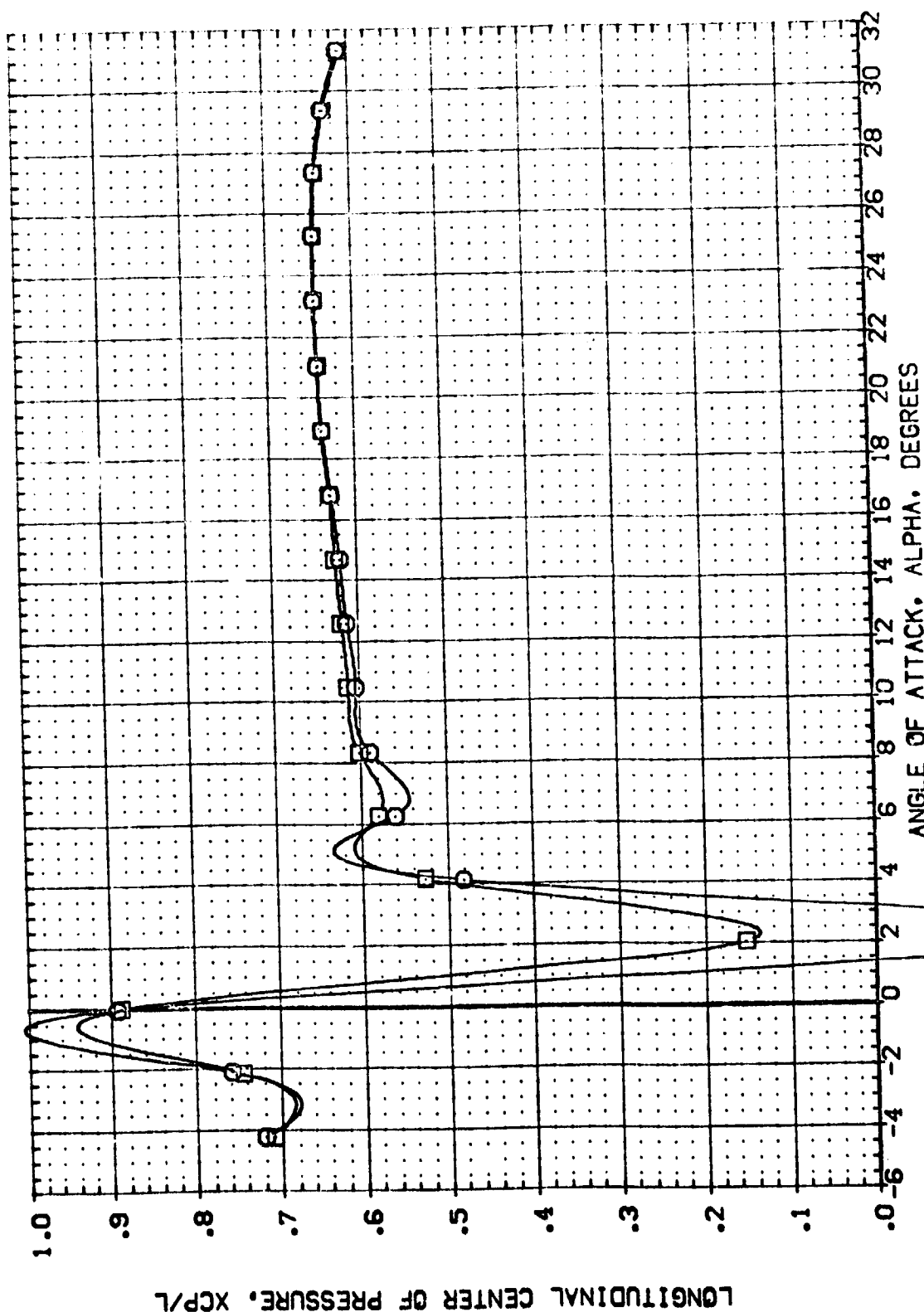


FIGURE 93 CONFIG 139B EFFECT OF BODY FLAP

(A)MACH = .26



| | | | | | | | | | | | | | |
|-----------------|---|---------------------------|-------|--------|-------------|--------|------|--------|--------|---------|-------|-----------------------|---------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | ELEVON | | AILRON | | SPDBRK | | BOFLAP | | REFERENCE INFORMATION | |
| (EDP104) | □ | 0A21B | B1SC7 | M4FS | V107E23V7R6 | .000 | .000 | .000 | 25.000 | -18.000 | SREF | 4.4119 | 50. FT. |
| (EDP200) | □ | 0A21B | B1SC7 | M4 | V107E23V7R6 | .000 | .000 | .000 | 25.000 | -18.000 | LREF | 19.2239 | INCHES |
| | | | | | | | | | | | BREF | 37.9359 | INCHES |
| | | | | | | | | | | | XGRP | 43.5374 | INCHES |
| | | | | | | | | | | | YGRP | 00.00 | INCHES |
| | | | | | | | | | | | ZGRP | 16.2000 | INCHES |
| | | | | | | | | | | | SCALE | .0405 | SCALE |

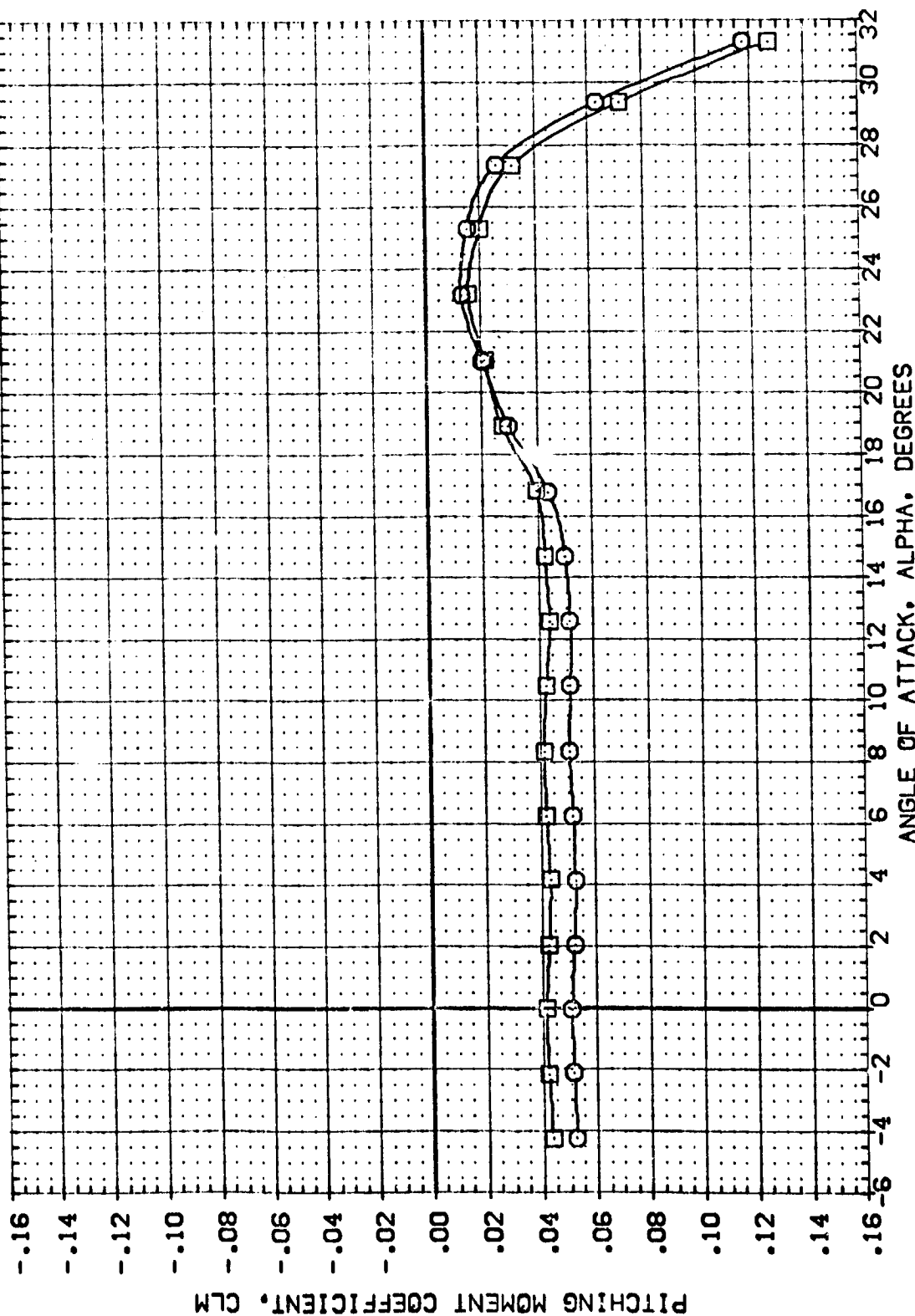


FIGURE 93 CONFIG 139B EFFECT OF BODY FLAP

(MACH = .26

| | | | | | | |
|-----------------|---------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPOROK | BOFLAP | REFERENCE INFORMATION |
| (EDP231) | 815C7 M4F3 V10TE23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (YOP244) | 815C7 M4F6 V10TE23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.7203 INCHES |
| | | | | | | XM7P 37.5639 INCHES |
| | | | | | | YM7P 43.5574 INCHES |
| | | | | | | ZM7P .0000 INCHES |
| | | | | | | SCALE 16.2000 INCHES |
| | | | | | | SCALE .0405 |

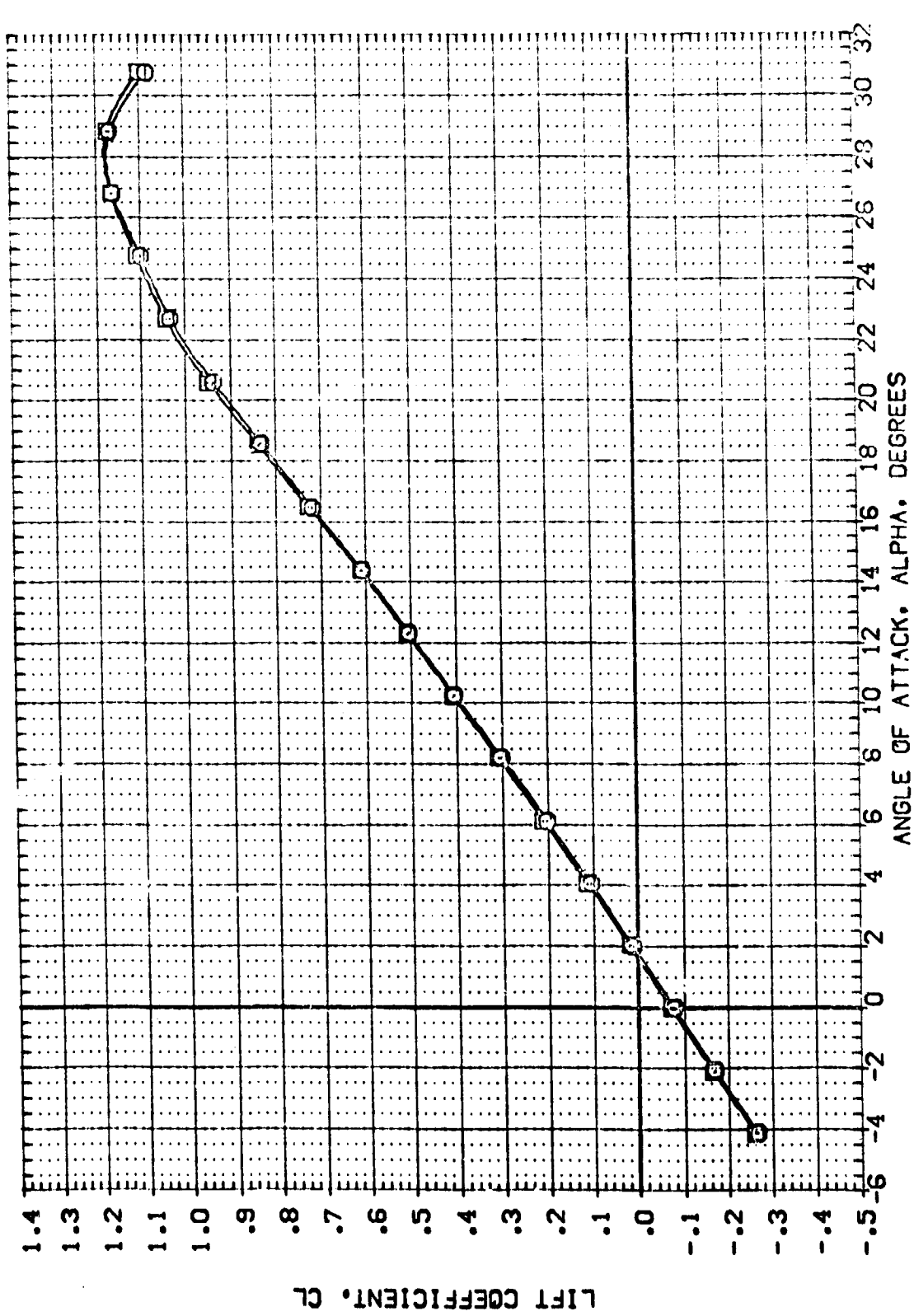


FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

CAJMACH = .16

| | | | | | | | |
|-----------------|---------------|-------------|--------|-------------|---------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION | DESCRIPTION | ELEVON | AILERON | SPROBRK | BOFLAP | REFERENCE INFORMATION |
| (ED2231) | 0A218 | B19C7 | M4F5 | V107E23V7R6 | 0.000 | -18.000 | SRREF 4.4119 |
| (VDF244) | 0A218 | B19C7 | M4F6 | V107E23V7R6 | 0.000 | -18.000 | LINEF 19.2293 |
| | | | | | 0.000 | -18.000 | BRREF 37.6358 |
| | | | | | 0.000 | -18.000 | XRREF 43.5974 |
| | | | | | 0.000 | -18.000 | YMRP 16.2200 |
| | | | | | 0.000 | -18.000 | ZMRP 16.2200 |
| | | | | | 0.000 | -18.000 | SCALE .0405 |

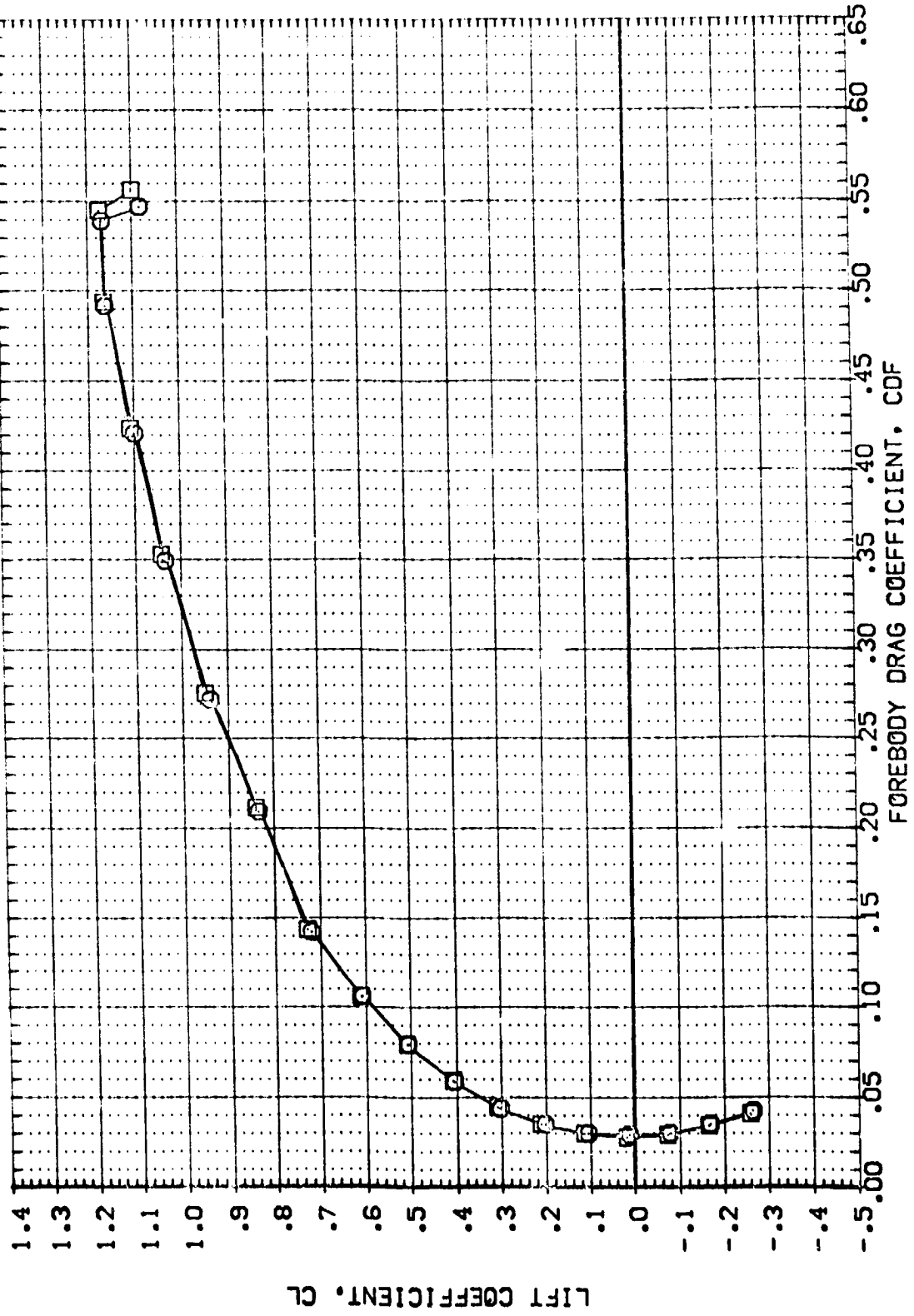


FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

(A)MACH = .16

| | | | | | | | | | | | | | |
|-----------------|---|---------------------------|-------|--------|-------------|---------|------|--------|--------|---------|---------|-----------------------|-------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | ELEVON | | AILERON | | SPORRK | | BOXFLAP | | REFERENCE INFORMATION | |
| (EDF231) | □ | 0A21B | B19C7 | M4F5 | V107E23V7R5 | .000 | .000 | .000 | 25.000 | -18.000 | 4.4119 | 53.17 | SREF |
| (YDF244) | □ | 0A21B | B19C7 | M4F6 | V107E23V7R6 | .000 | .000 | .000 | 25.000 | -18.000 | 19.2239 | 1.04E5 | LREF |
| | | | | | | | | | | | 37.9358 | 1.04E5 | EXREF |
| | | | | | | | | | | | 43.5874 | 1.04E5 | XREF |
| | | | | | | | | | | | 16.2000 | 1.04E5 | YREF |
| | | | | | | | | | | | .0405 | 1.04E5 | ZREF |
| | | | | | | | | | | | | | SCALE |

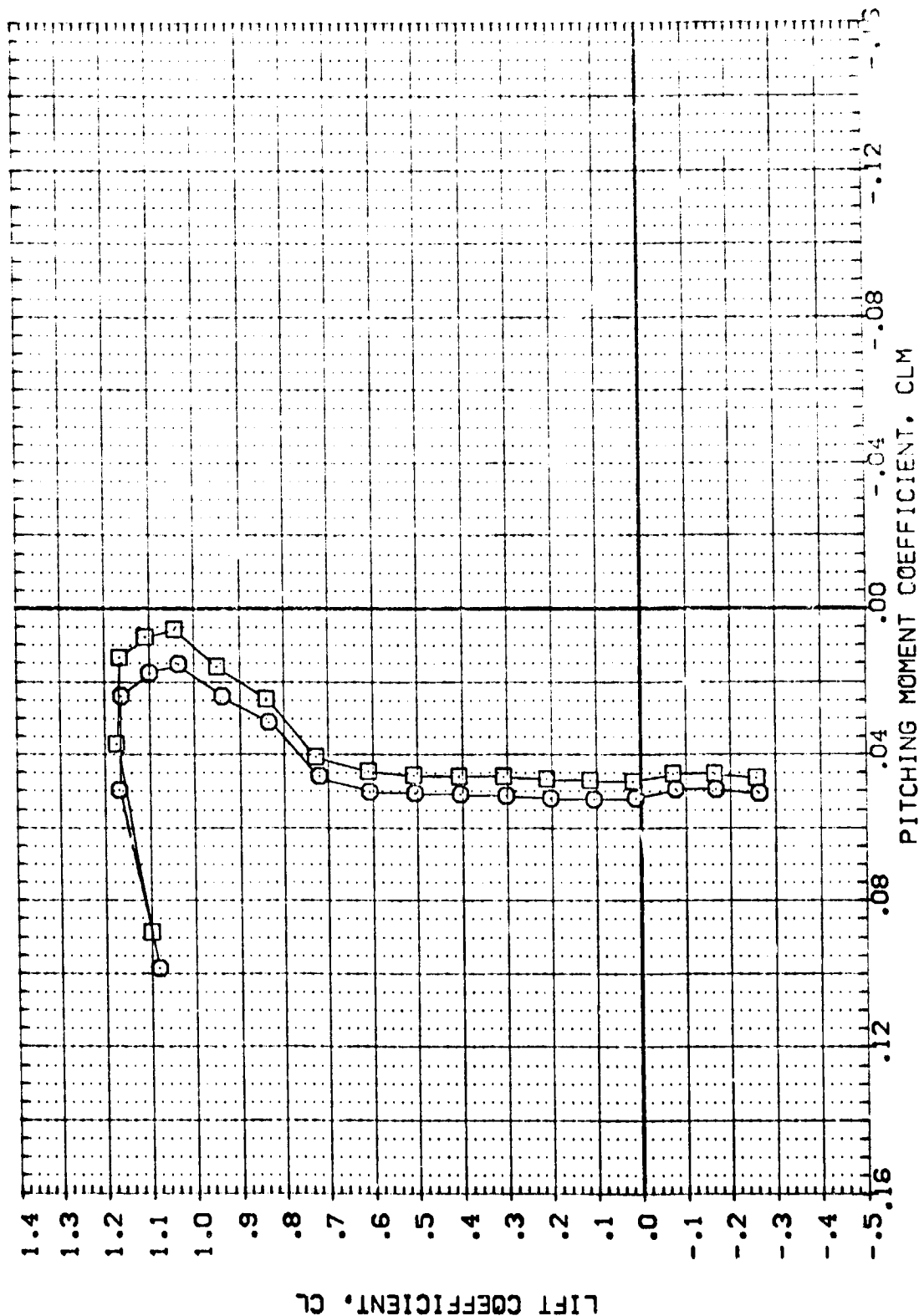


FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

(A)MACH = .16

DATA SET SYMBOL: Q218 81SC7 M4F5 V107E23V7R6
 [ED231] Q218 81SC7 M4F6 V107E23V7R6
 [YD244]

ELEVON: .000
 AILERON: .000
 SPOILER: 25.000
 BOFLAP: -18.000

REFERENCE INFORMATION:
 SREF: 4.4119 SQ.FT.
 LREF: 19.2400 INCHES
 XREF: 37.6900 INCHES
 YREF: 43.8874 INCHES
 ZREF: 0.0000 INCHES
 SCALE: 16.2400 INCHES
 .0405

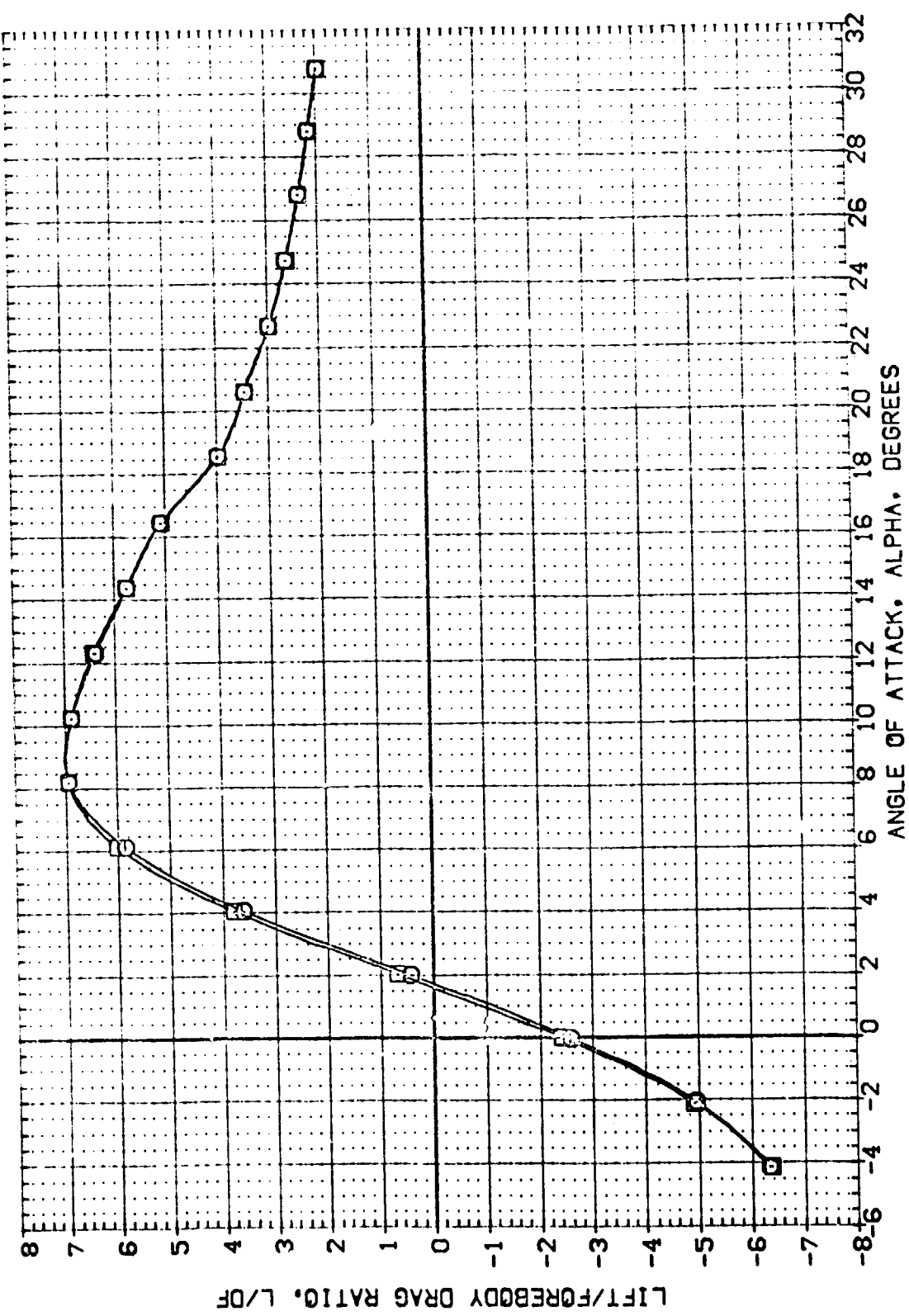


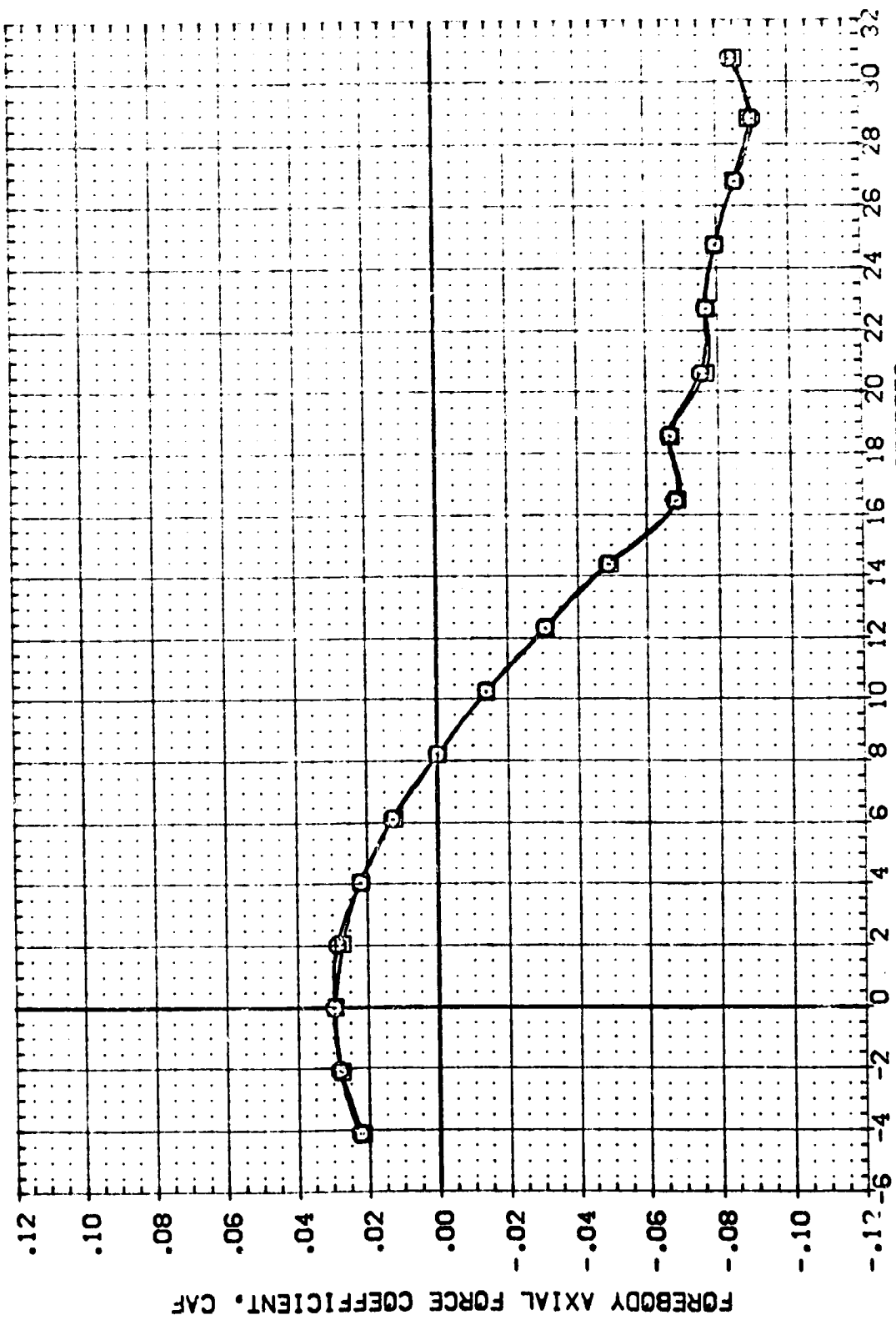
FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

CA/MACH = .16

DATA SET SYMBOL: 0A218 819C7 M4F5 V107E23V7N6
 (EDP231) 0A218 819C7 M4F5 V107E23V7N6
 (VOP241)

CONFIGURATION DESCRIPTION
 ELEVON .000
 AIRLON .000
 SPDRBK 25.000
 BOFLAP -18.000
 -13.000

REFERENCE INFORMATION
 SREF 4.4118 SQ.FT.
 LREF 19.2238 INCHES
 BREF 37.9338 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405



ANGLE OF ATTACK, ALPHA, DEGREES

FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

(A)MACH = .16

| | | | | | | |
|-----------------|------------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
| (EDP231) | 0A21B R19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (YDP244) | 0A21B B19C7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2298 INCHES |
| | | | | | | BREF 37.9233 INCHES |
| | | | | | | XMRP 43.5974 INCHES |
| | | | | | | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .04CS |

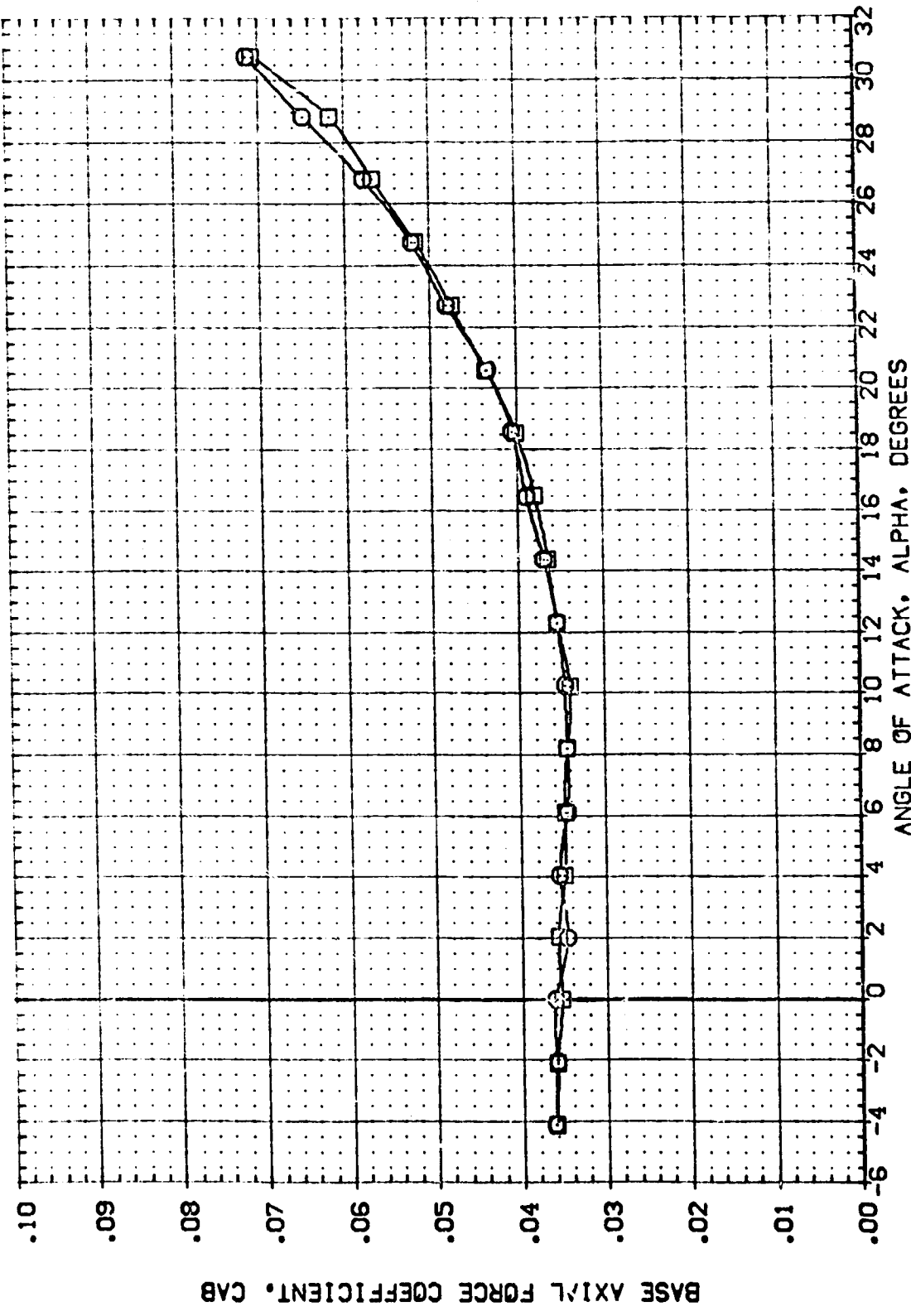


FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

(A)MACH = .16

| | | | | | | |
|-----------------|------------------------------|-----------|----------|-----------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVATION | ATTITUDE | SPIN RATE | BO FLAP | REFERENCE INFORMATION |
| (EDP221) | 0A218 B15C7 MAFS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (TOP244) | 0A218 B15C7 MAFS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2779 INCHES |
| | | | | | | BREF 37.9239 INCHES |
| | | | | | | MREF 43.5974 INCHES |
| | | | | | | MREF 16.2000 INCHES |
| | | | | | | SCALE .0405 INCHES |

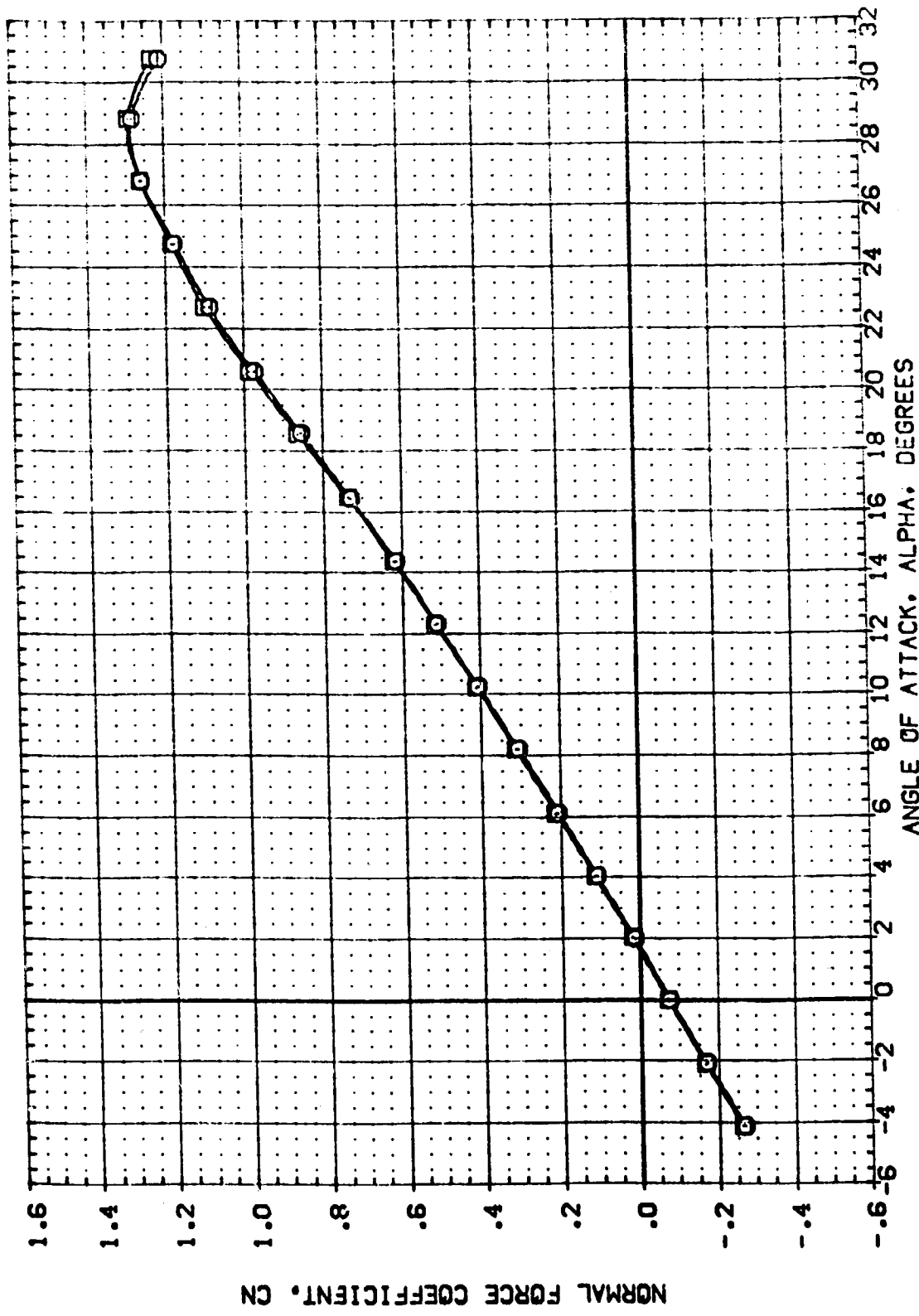


FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

(MACH = .16)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDF231) □ OA218 819C7 M4FS V107E23V7R6
 (YDF244) □ OA218 819C7 M4FS V107E23V7R6

ELEVON ALLORN SPOBRK BOFLAP REFERENCE INFORMATION
 SREF 4.4119 SQ.FT. INCHES
 LREF 19.2239 INCHES
 BRREF 37.9359 INCHES
 XMRP 43.5974 INCHES
 YMRP 16.2000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 INCHES

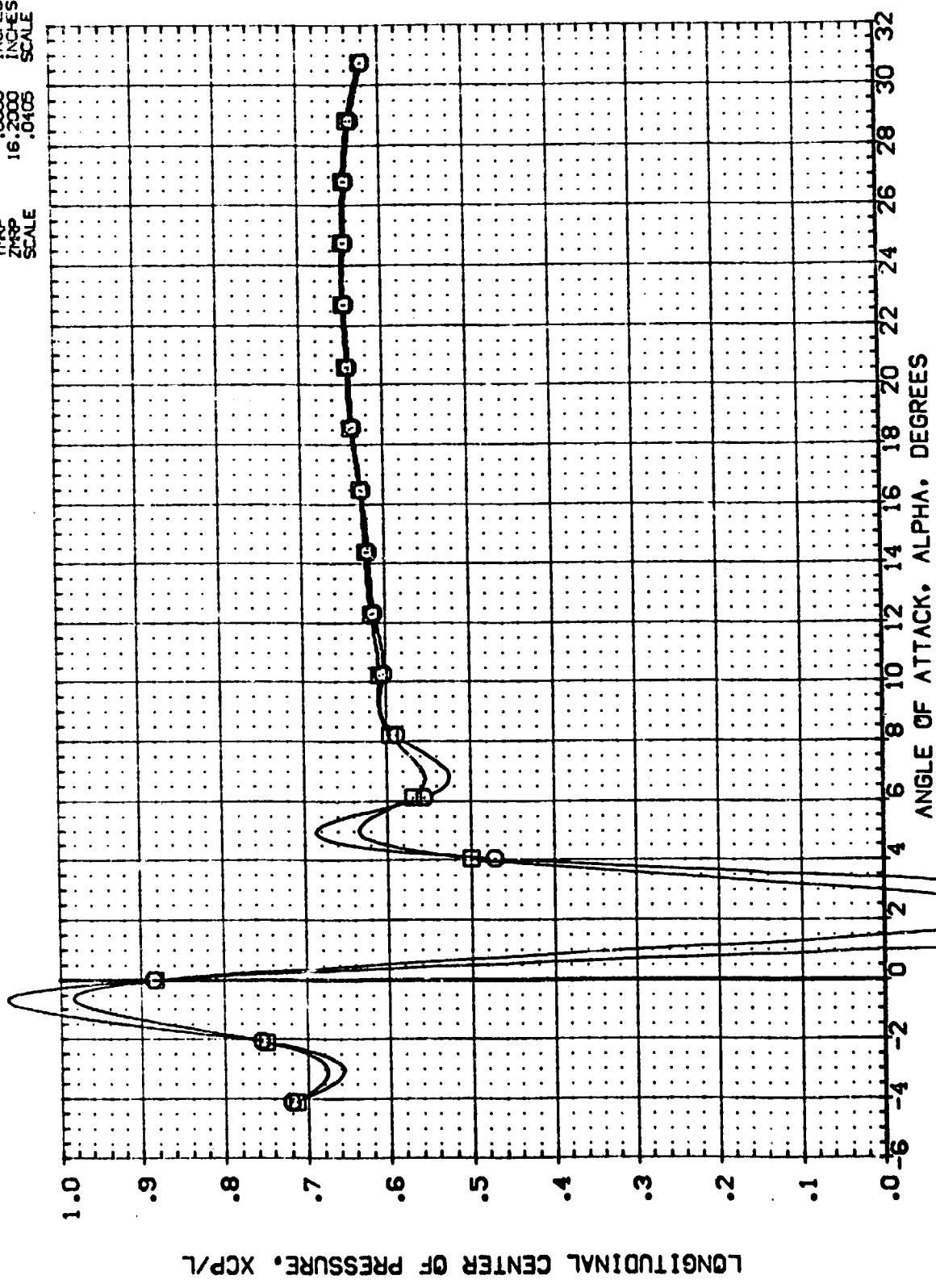


FIGURE 94 CONFIG 1398 EFFECT OF FLAP CHORD VARIATION

CA/MACH = .16

DATA SET SYMBOL: 0218 0137 M4F3 V107E23V786
 (EDP201) 0218 0137 M4F6 V107E23V786

ELEVATION: .000
 ALLISON: .000
 SPOBARK: 25.000
 BOFLAP: -18.000
 REFERENCE INFORMATION:
 SREF: 4.4119 53.171
 LREF: 19.2789 INCHES
 EREF: 37.9359 INCHES
 WREF: 43.5374 INCHES
 WREF: 16.0000 INCHES
 ZREF: 16.0000 INCHES
 SCALE: .0408

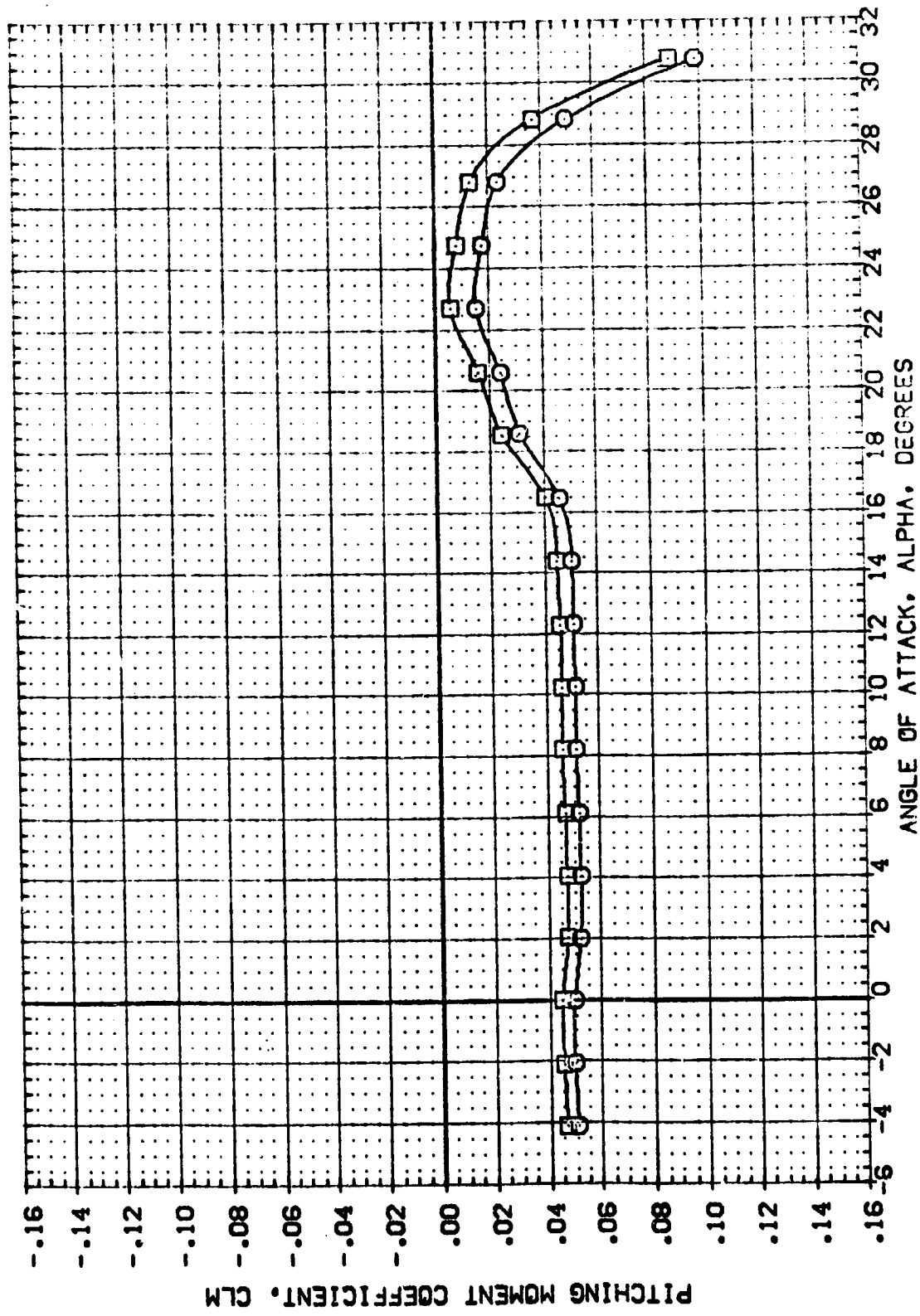


FIGURE 94 CONFIG 139B EFFECT OF FLAP CHORD VARIATION

(A)MACH = .16

| | | | | | | |
|-----------------|---------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
| (YD244) | 0A21B B19C7 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDF245) | 0A21B B19C7 | .000 | .000 | 25.000 | 10.000 | LREF 19.2293 INCHES |
| (EDF246) | 0A21B B19C7 | .000 | .000 | 25.000 | 15.000 | GREF 37.9359 INCHES |
| (EDF247) | 0A21B B19C7 | .000 | .000 | 25.000 | 15.000 | XREF 43.5374 INCHES |
| | | | | | | YREF 16.2050 INCHES |
| | | | | | | ZREF .0465 SCALE |

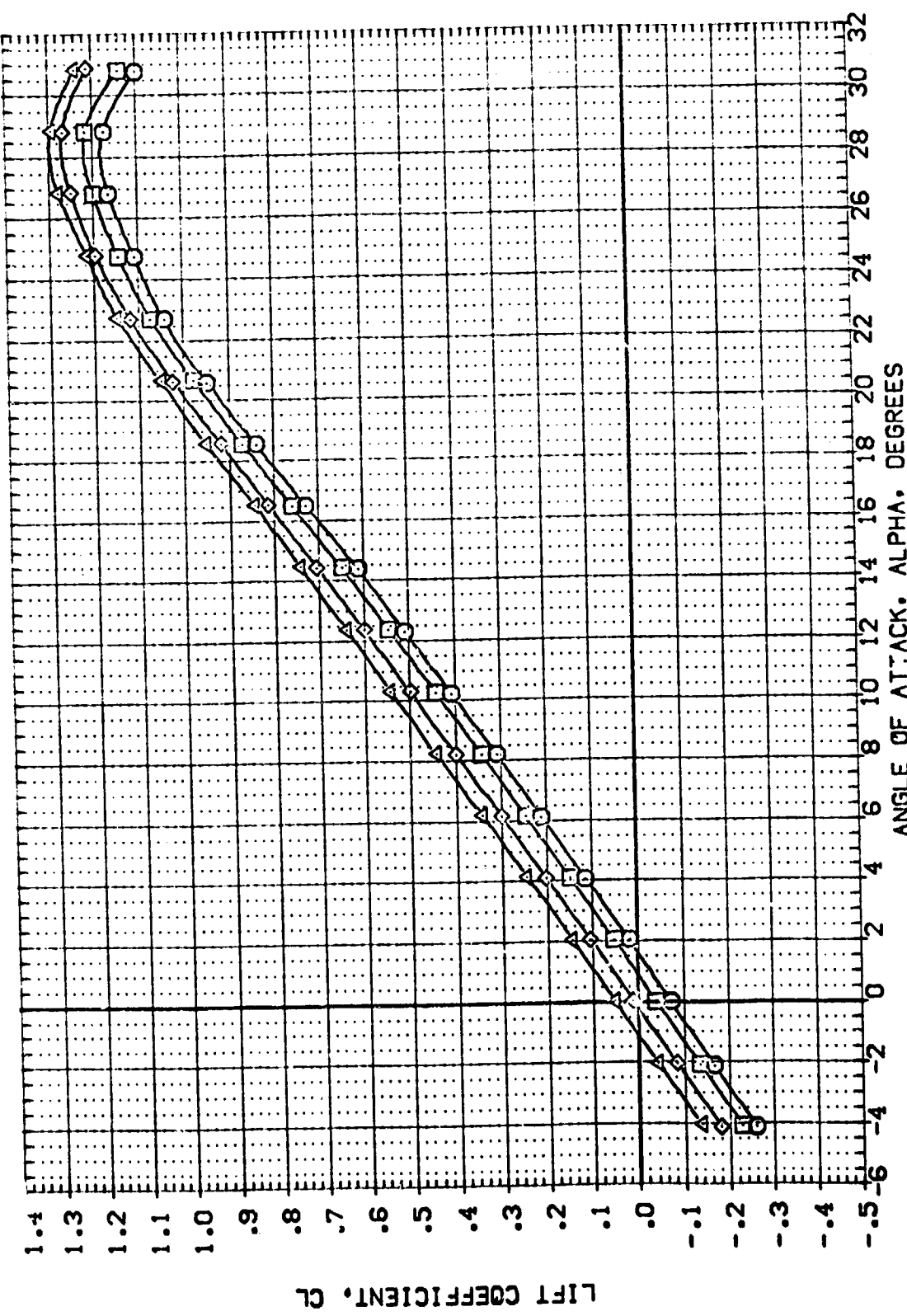


FIGURE 95 CONFIG 139B EFFECT OF (F6) BODY FLAP DEFLECTION

(A)MACH = .16

| | | | |
|--------|--------|--------|---------|
| ELEVEN | AIRRON | SPDRBK | BOFLAP |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | .000 |
| .000 | .000 | 25.000 | 19.000 |
| .000 | .000 | 25.000 | 15.000 |

| DATA SET SYMBOL | CONFIDENTIALITY | DESCRIPTION |
|-----------------|-----------------|-------------|
| {YD24} | 0A21B | M4F6 |
| {ED24S} | 0A21B | M4F6 |
| {ED24S} | 0A21B | M4F6 |
| {ED24S} | 0A21B | M4F6 |

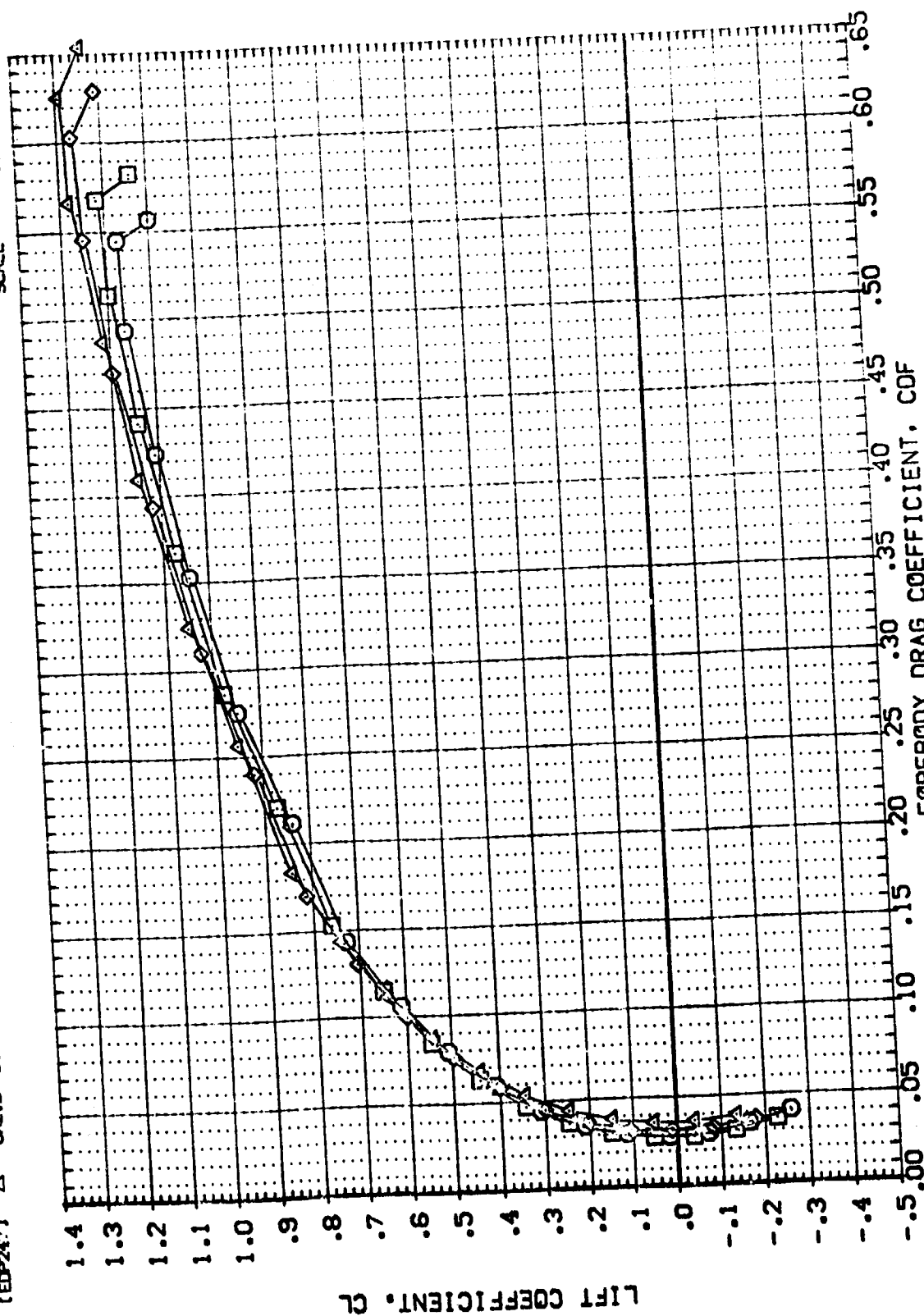


FIGURE 95 CONFIG 139B EFFECT OF (F6) BODY FLAP DEFLECTION

$$C_A]MACH = .16$$



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AIRLON | SPORRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|--------|--------|---------|-----------------------|
| (YDP244) | CA21B B1SC7 | .000 | .000 | 23.000 | -18.000 | SREF 4.4119 |
| (EDP245) | CA21B B1SC7 | .000 | .000 | 23.000 | 10.000 | LREF 19.2259 |
| (EDP246) | CA21B B1SC7 | .000 | .000 | 23.000 | 15.000 | BREF 37.5359 |
| (EDP247) | CA21B B1SC7 | .000 | .000 | 23.000 | | XREF 43.5974 |
| | | | | | | YREF .0000 |
| | | | | | | ZREF 16.2000 |
| | | | | | | SCALE .0405 |

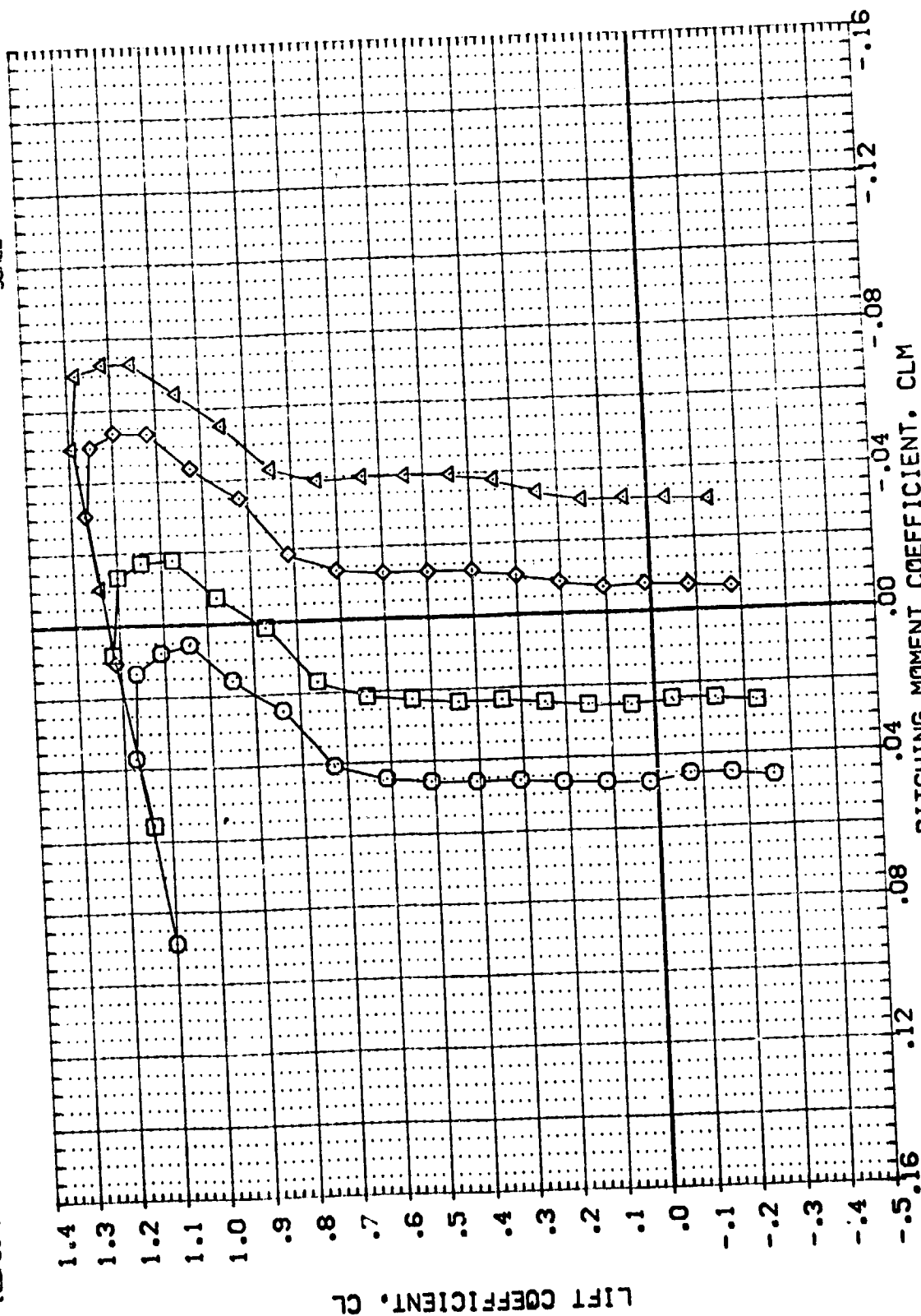


FIGURE 95 CONFIG 139B EFFECT OF (F6) BODY FLAP DEFLECTION

CAJMACH = .16

DATA SET SYMBOL: (ED244) (ED245) (ED246) (ED247)

CONFIGURATION DESCRIPTION: CA218 B1SC7 MAF6 V107E23V7R6 CA218 B1SC7 MAF6 V107E23V7R6 CA218 B1SC7 MAF6 V107E23V7R6 CA218 B1SC7 MAF6 V107E23V7R6

ELEVON: .000 .000 .000 .000

AILERON: .000 .000 .000 .000

SPDBRK: 25.000 25.000 25.000 25.000

BOFLAP: -18.000 10.000 15.000 15.000

REFERENCE INFORMATION:

SREF: 4.4119 53.17

LREF: 19.2283 19.2283

EREF: 37.9333 37.9333

XMRP: 43.5574 43.5574

YMRP: .0000 .0000

ZMRP: 16.2000 16.2000

SCALE: .0405 .0405

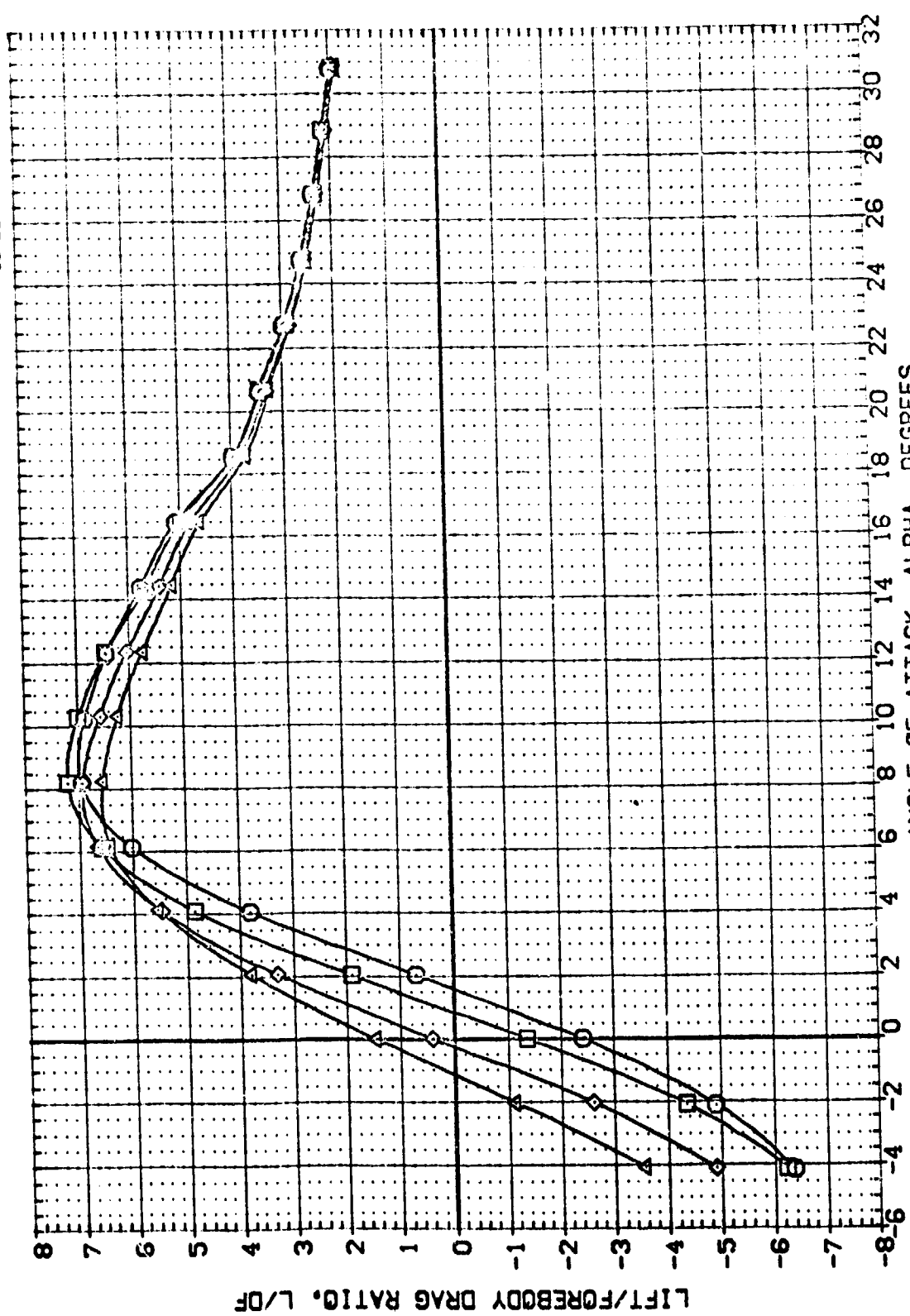


FIGURE 95 CONFIG 139B EFFECT OF (F6) BODY FLAP DEFLECTION

CAJ MACH = .16

| | | | | | | |
|-----------------|------------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDRK | BOFLAP | REFERENCE INFORMATION |
| (YD244) | GA218 B19C7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP245) | GA218 B19C7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | 10.000 | LREF 19.2299 INCHES |
| (EDP246) | GA218 B19C7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | 15.000 | BREF 37.5353 INCHES |
| (EDP247) | GA219 B19C7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | | XREF 43.5574 INCHES |
| | | | | | | YREF 16.2000 INCHES |
| | | | | | | ZREF .0405 SCALE |

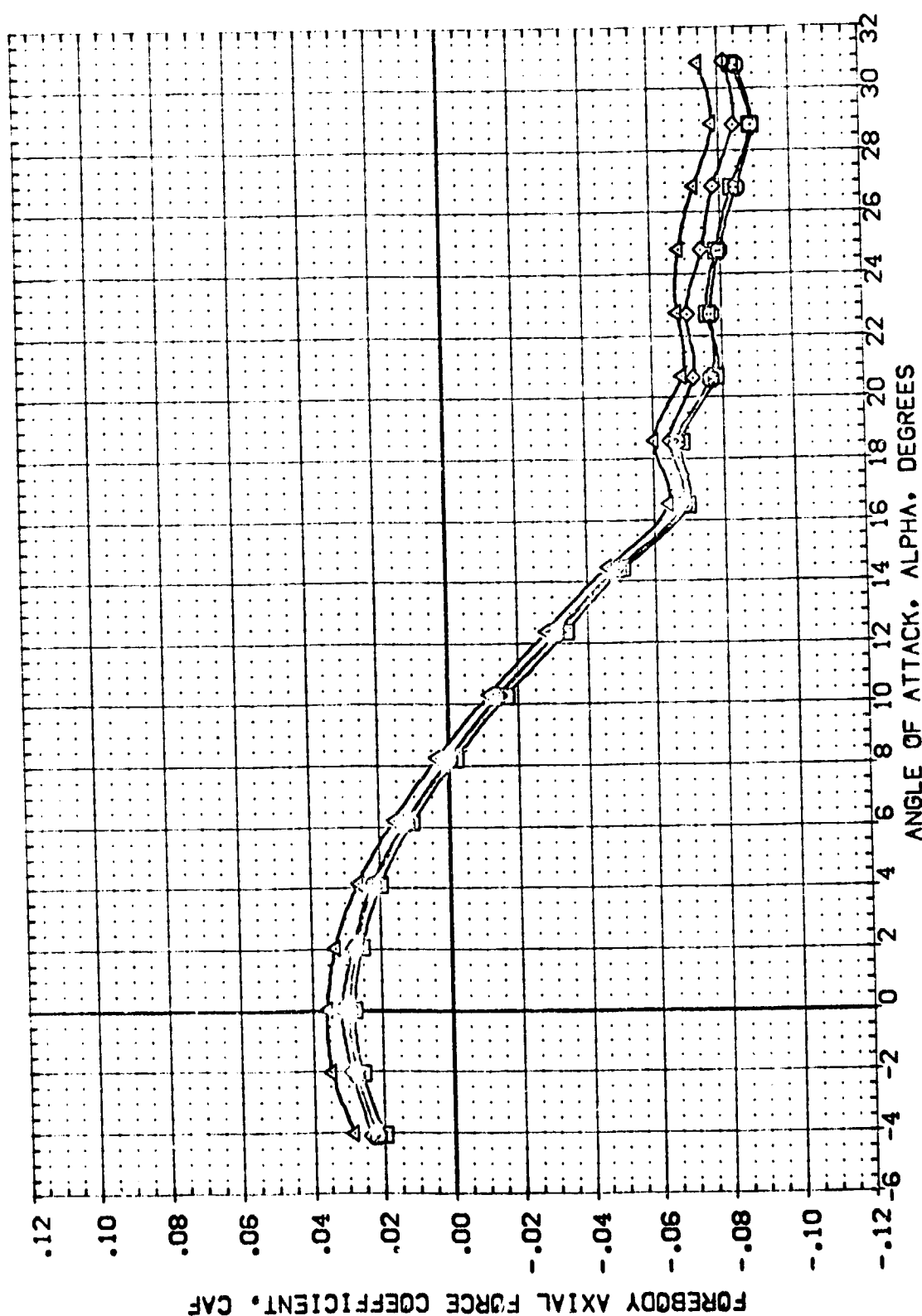


FIGURE 95 CONFIG 1398 EFFECT OF (F6) BODY FLAP DEFLECTION

(A)MACH = .16

| | | | | | | |
|-----------------|------------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
| (VDP244) | 0A21B B1SC7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP245) | 0A21B B1SC7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | .000 | LREF 19.2233 INCHES |
| (EDP246) | 0A21B B1SC7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | 10.000 | BREF 37.5359 INCHES |
| (EDP247) | 0A21B B1SC7 M4F6 V107E23V7R6 | .000 | .000 | 25.000 | 15.000 | XREF 43.5374 INCHES |
| | | | | | | YREF 16.0000 INCHES |
| | | | | | | ZREF 16.0000 INCHES |
| | | | | | | SCALE .0405 |

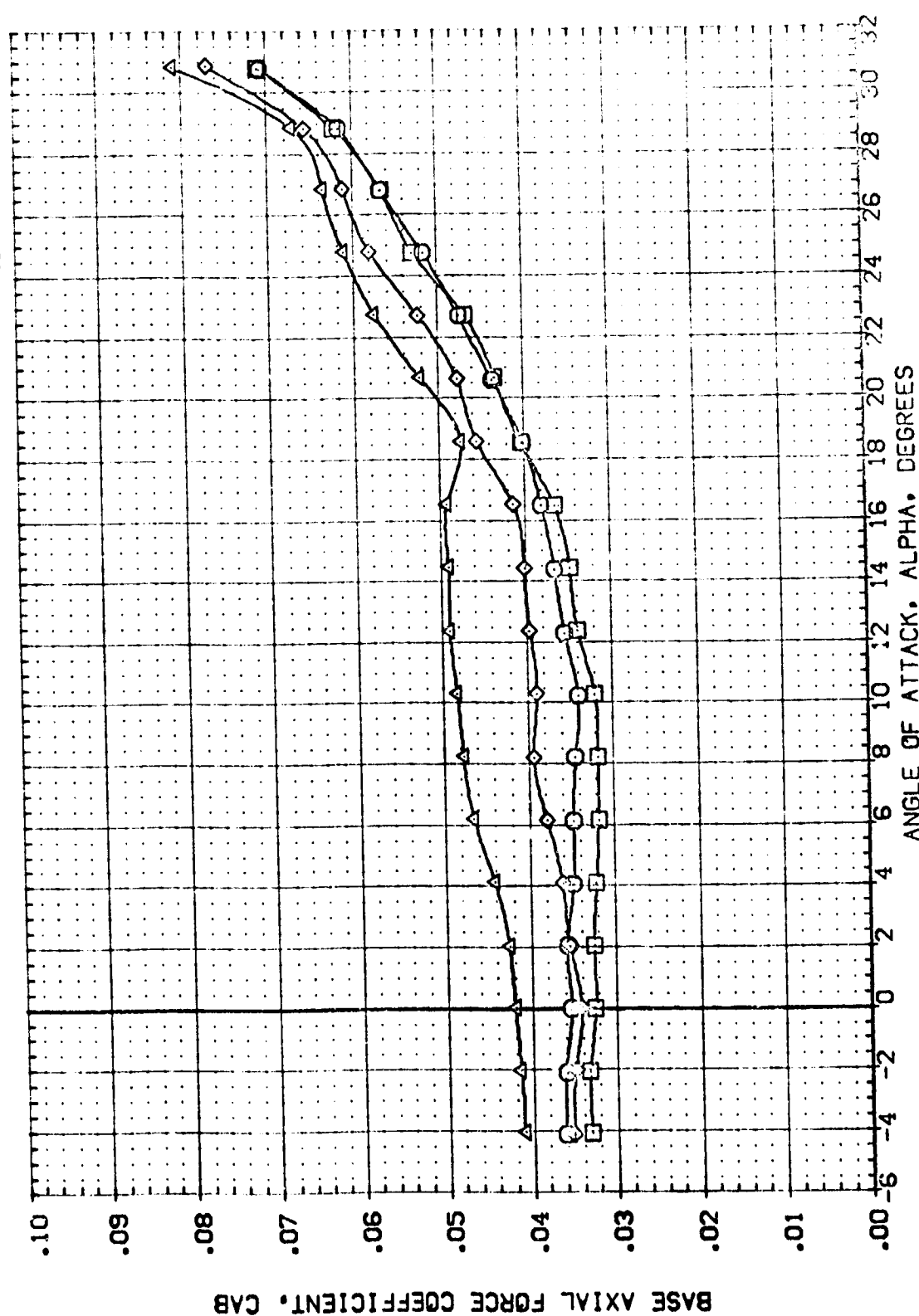
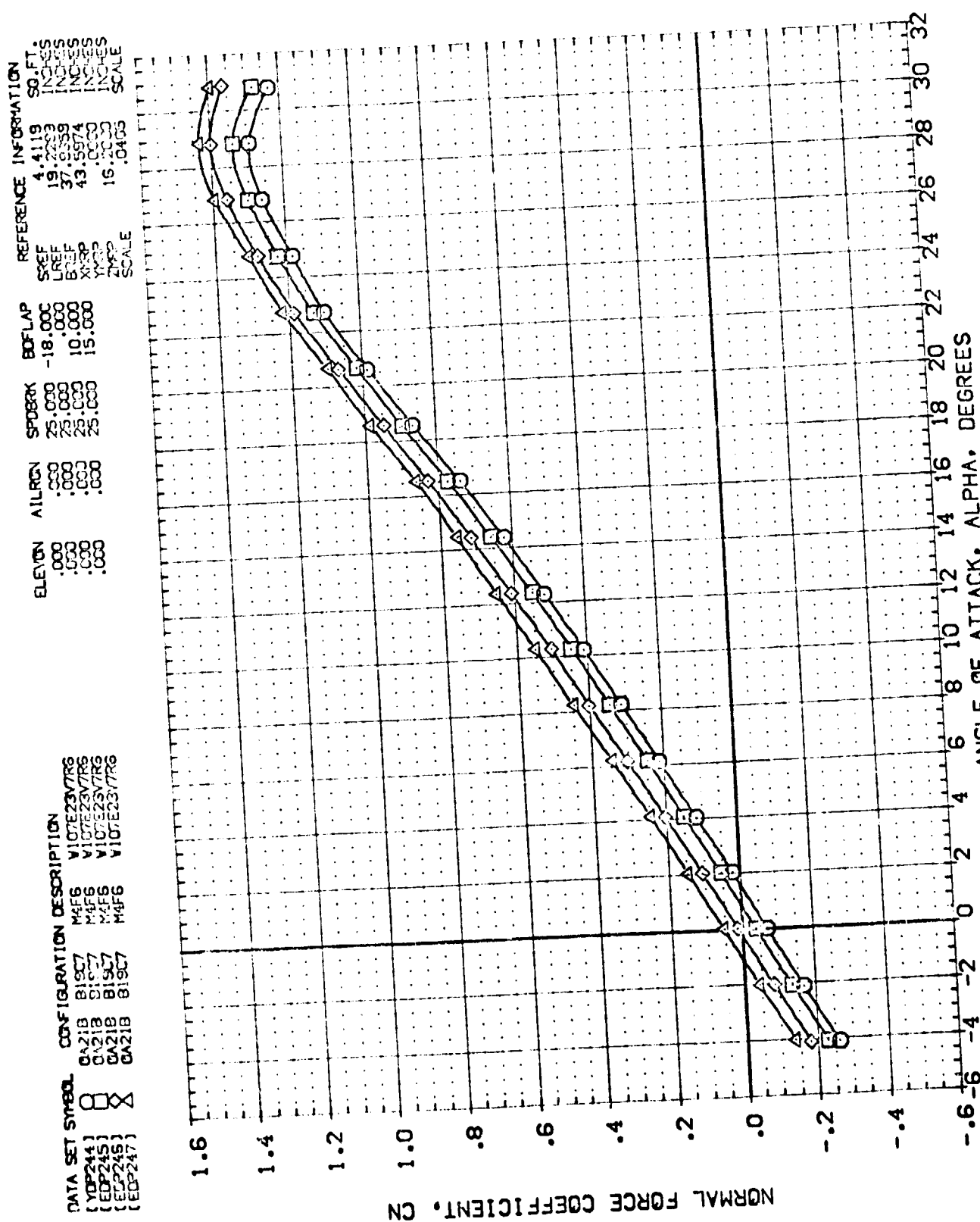


FIGURE 95 CONFIG 139B EFFECT OF (F6) BODY FLAP DEFLECTION

(A)MACH = .16



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$$C_A]MACH = .16$$

LONGITUDINAL CENTER OF PRESSURE, XCP/L

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION |
|-----------------|---------------------------|
| [YDP244] | 0A218 B19C7 |
| [EDP245] | M4F6 V107E23V7R6 |
| [EDP246] | M4F6 V107E23V7R6 |
| [EDP247] | M4F6 V107E23V7R6 |

| ELEVON | AILURON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|--------|---------|--------|---------|-----------------------|
| .000 | .000 | 25.000 | -18.000 | SREF 4.4119 |
| .000 | .000 | 23.000 | 10.000 | LREF 19.2000 |
| .000 | .000 | 23.000 | 10.000 | UREF 30.0000 |
| .000 | .000 | 23.000 | 15.000 | XREF 40.0000 |
| | | | | YREF 16.2000 |
| | | | | ZREF 16.2000 |
| | | | | SCALE .0005 |

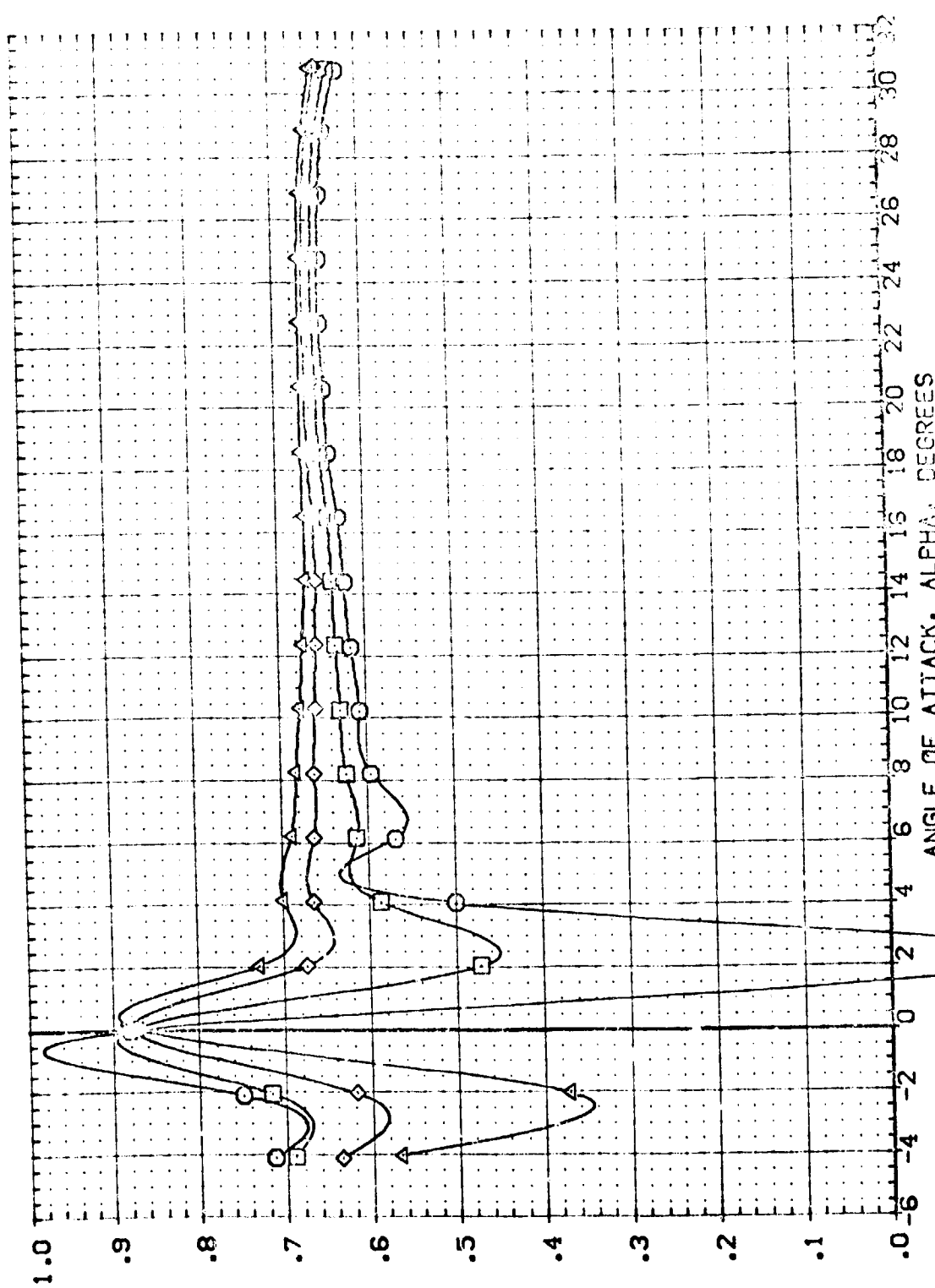


FIGURE 95 CONFIG 1398 EFFECT OF (F6) BODY FLAP DEFLECTION
CA/MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | AILERON | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|---------|--------|---------|-----------------------|
| (YD244) | QA21B B1SC7 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED245) | QA21B B1SC7 | .000 | .000 | 25.000 | 10.000 | LRFF 19.2293 INCHES |
| (ED246) | QA21B B1SC7 | .000 | .000 | 25.000 | 15.000 | LRFF 37.0000 INCHES |
| (ED247) | QA21B B1SC7 | .000 | .000 | 25.000 | 15.000 | LRFF 43.0000 INCHES |
| | | | | | | LRFF 16.2000 INCHES |
| | | | | | | SCALE .0105 |

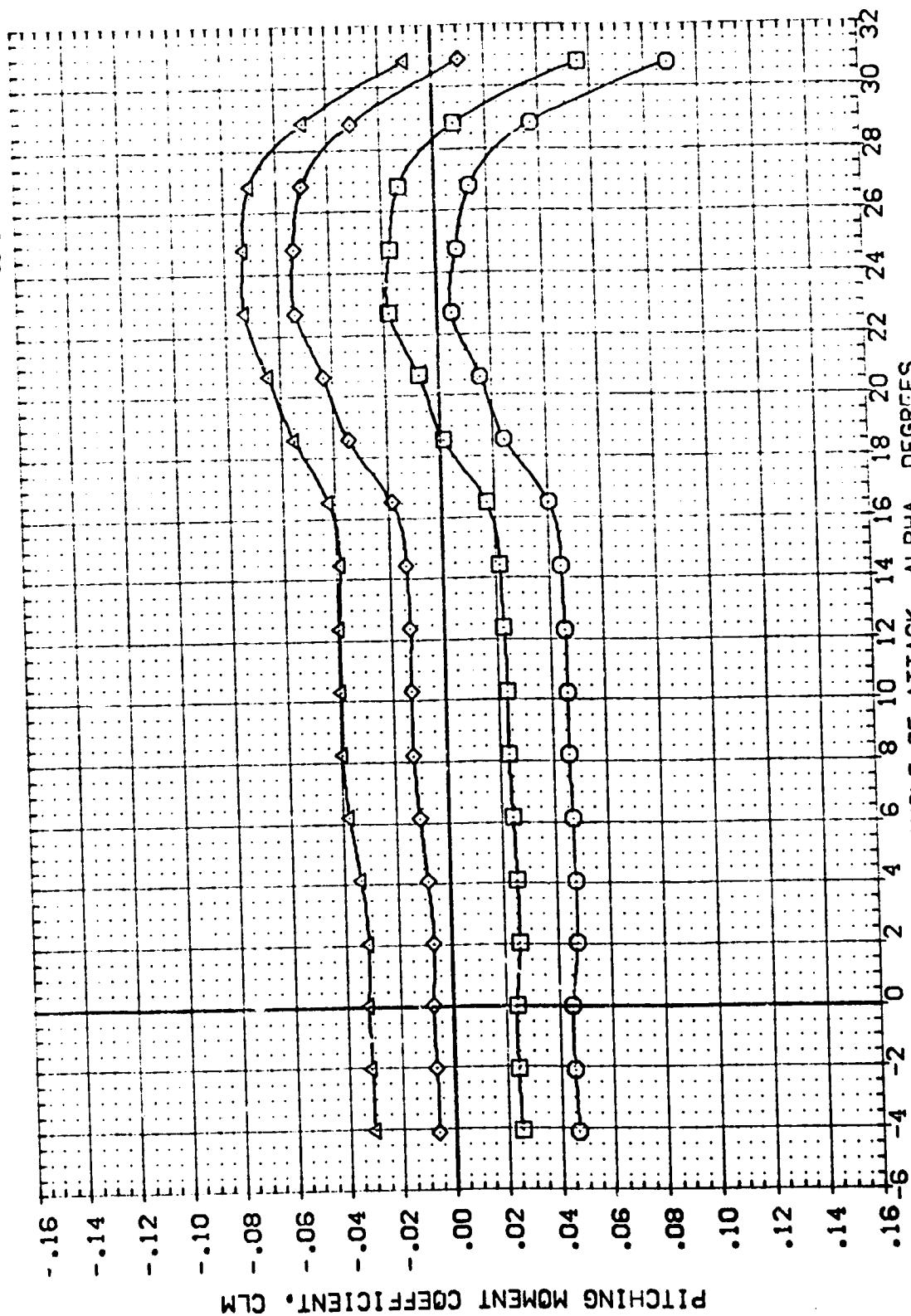


FIGURE 95 CONFIG 139B EFFECT OF (F6) BODY FLAP DEFLECTION

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDZ55) Q 0A218 B21C7 MAFS V10E23V7R6
 (EDZ52) Q 0A218 B21C7M23MAFS V10E23V7R6

ELEVON CANARD SPOBRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT. 50.000
 LREF 19.2223 INCHES 1.000
 BREF 37.9233 INCHES 1.000
 XMRP 43.5374 INCHES 1.000
 YMRP .0000 INCHES 1.000
 ZMRP 16.2000 INCHES 1.000
 SCALE .0435 SCALE

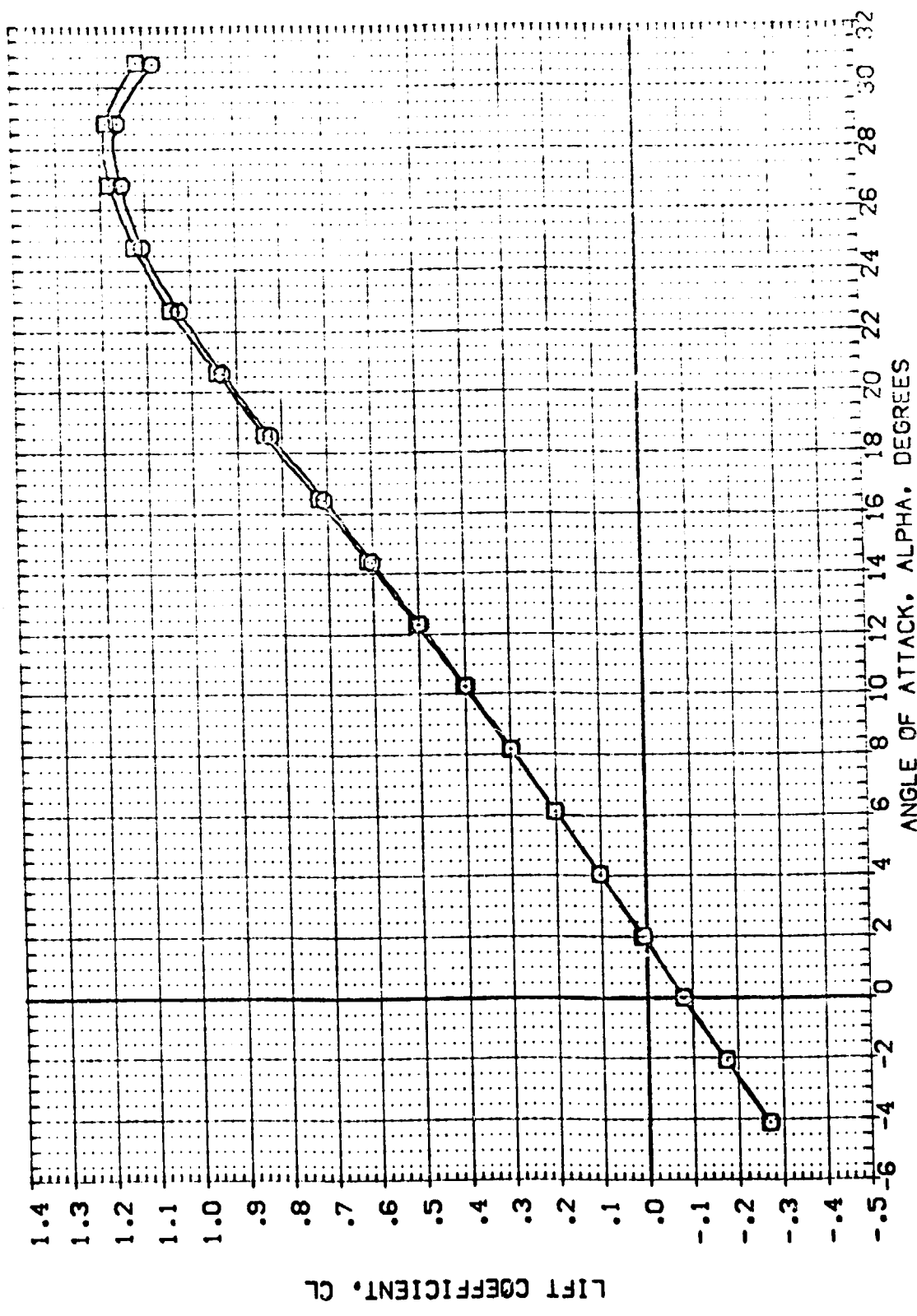


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {EDP256} □ 0A21B B21C7 M4FS V107E23V7R6
 {EDP262} □ 0A21B B21C7-234FS V107E23V7R6

ELEVON CANARD SPOILER BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2289 INCHES
 BREF 37.9359 INCHES
 XGRP 43.8574 INCHES
 YGRP .0000 INCHES
 ZGRP 16.2000 INCHES
 SCALE .0105 SCALE

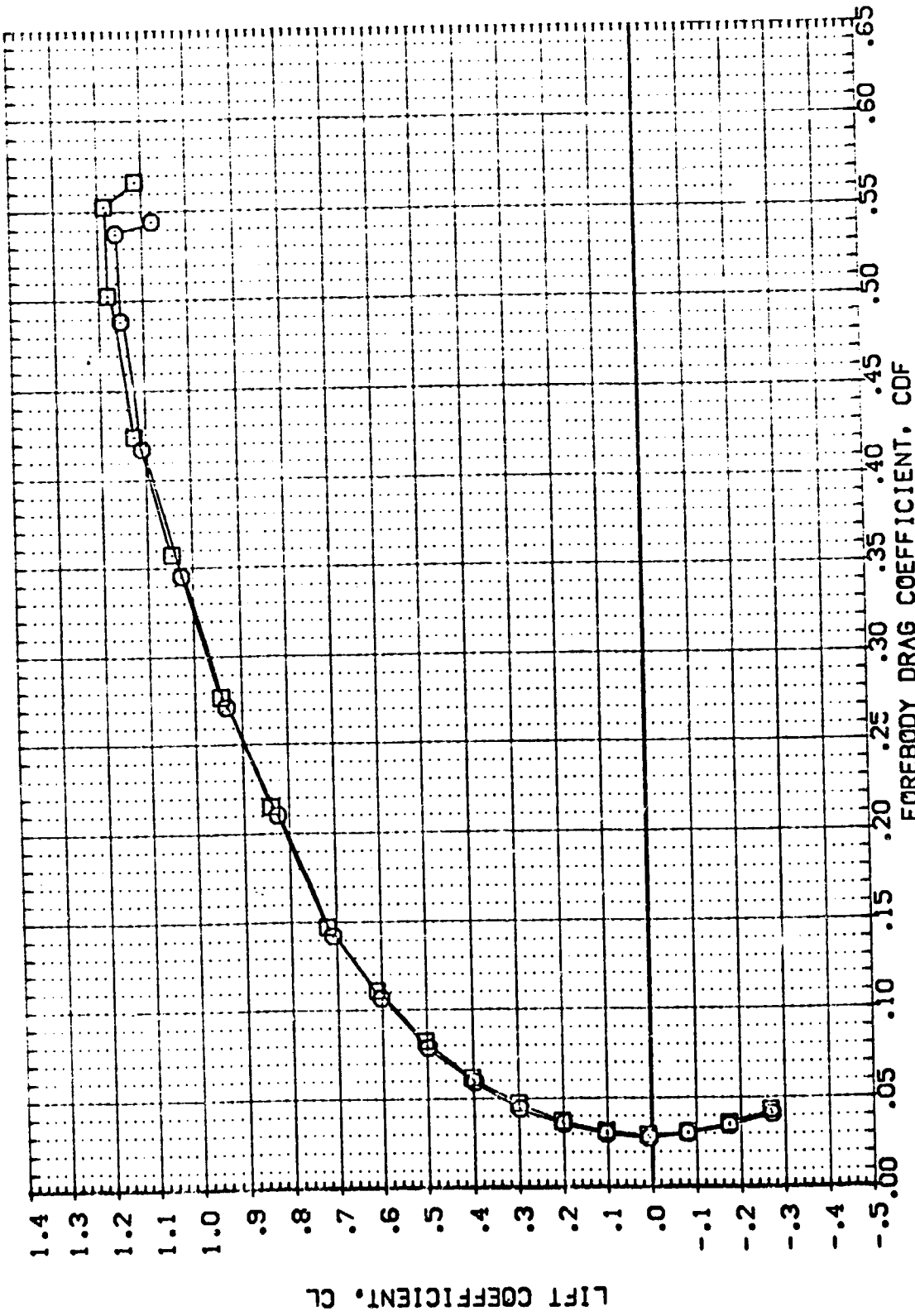


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ED-236) CA21B B21C7 MFS V107E23V7R8
 (ED-262) CA21B B21C7-23MFS V107E23V7R8

ELEVON .000
 .000
 CANARD .000
 SPDBRK 25.000
 -18.000
 BDFLAP -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 UREF 19.2289 INCHES
 GREF 37.9333 INCHES
 XMRP 43.5004 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

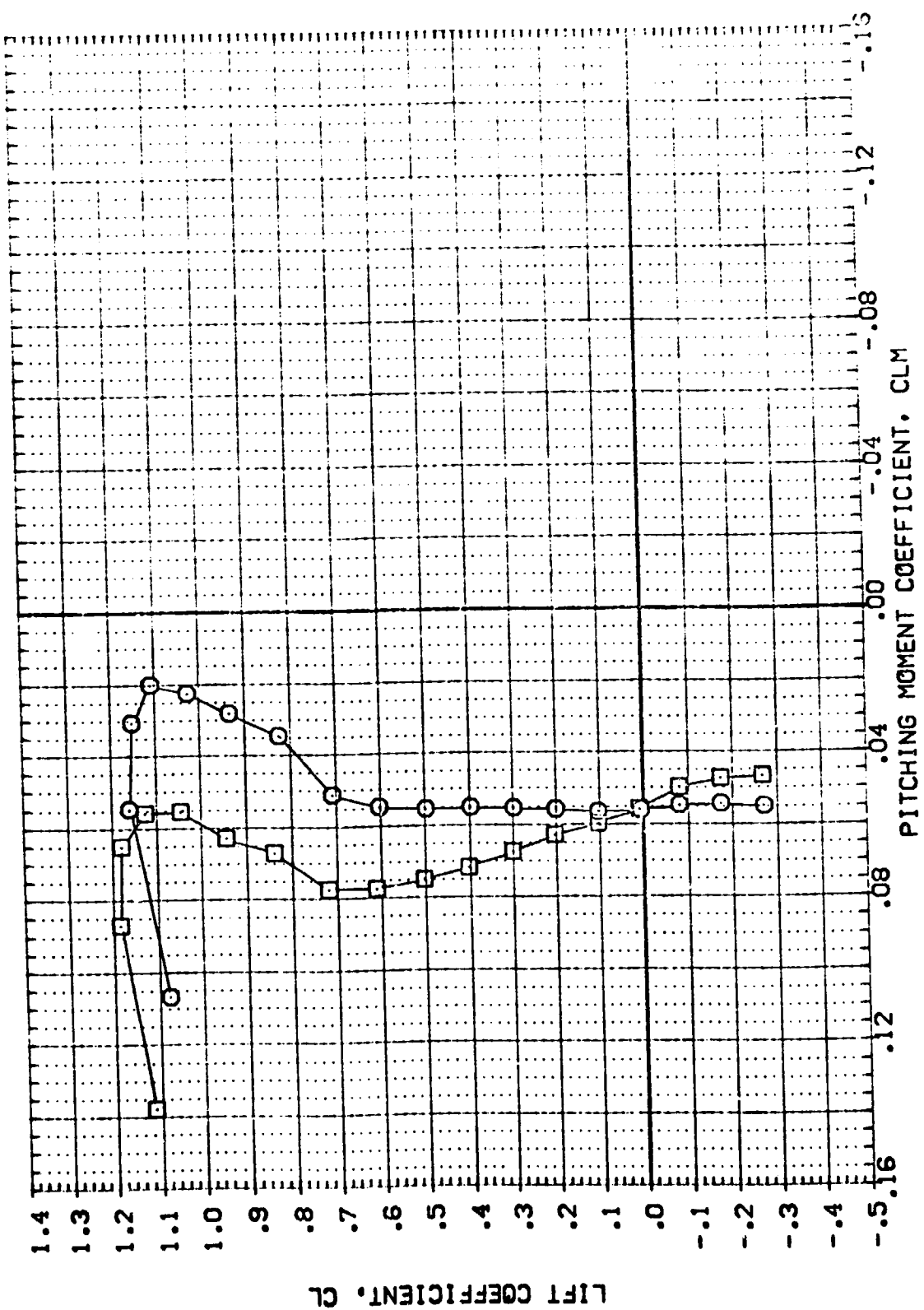


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

CAJ MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ED256) 0A213 B21C7 MAFS V107E23V7R6
 (ED262) 0A218 B21C7M23MAFS V107E23V7R6

ELEVON CANARD SPOILER BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.7398 INCHES
 BREF 37.9359 INCHES
 XREF 43.9274 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 INCHES

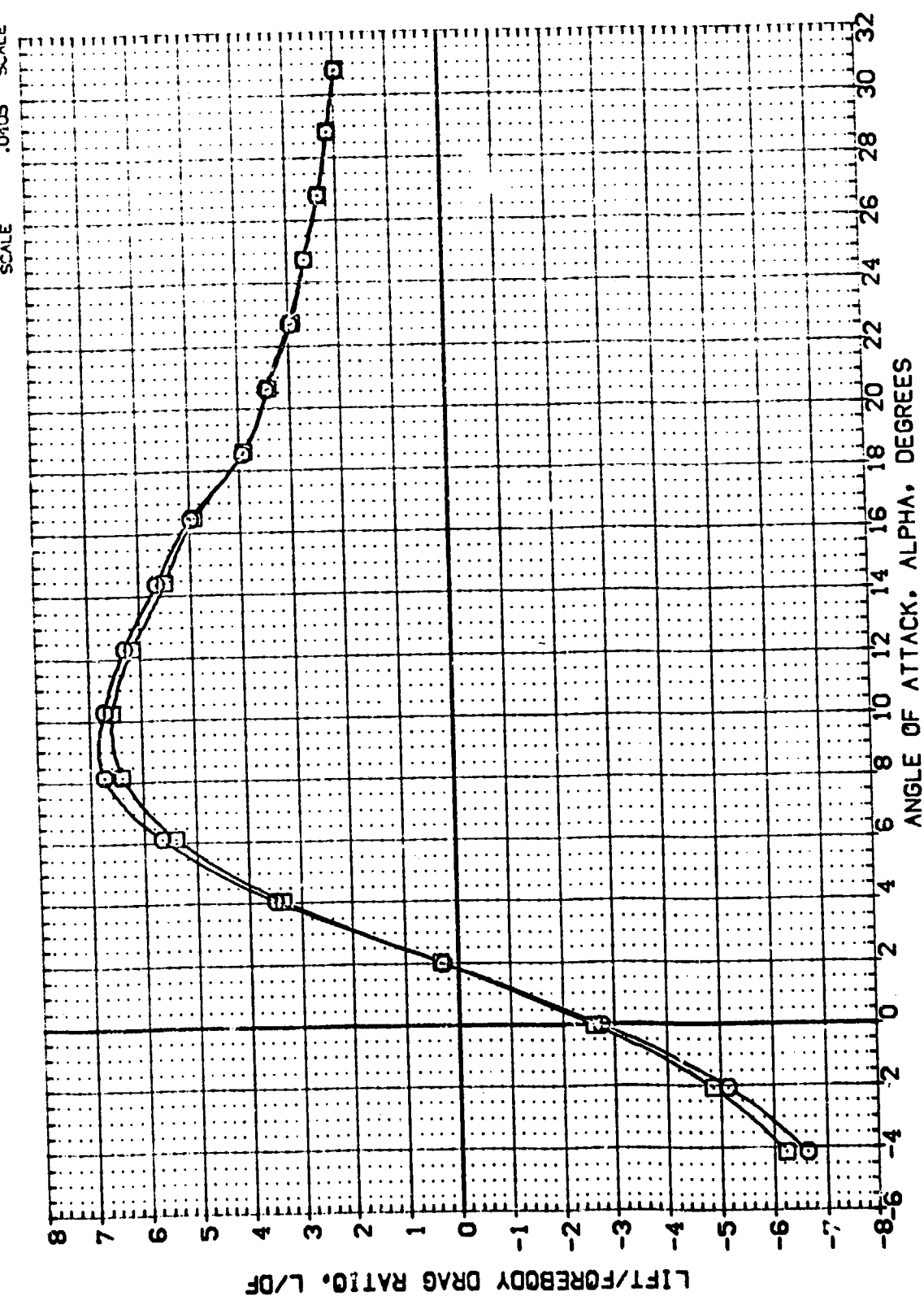


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

(M)MACH = .16

DATA SET SYMBOL: 0218 02167 HAFS V107EZ3V7R6
 (EDP262) 0218 02167 HAFS V107EZ3V7R6

ELEVON CANARD SPDBRK BOFLAP
 .000 .000 -18.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 80.FT.
 LREF 18.2283 INCHES
 BRGF 37.8209 INCHES
 XMRP 43.8374 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

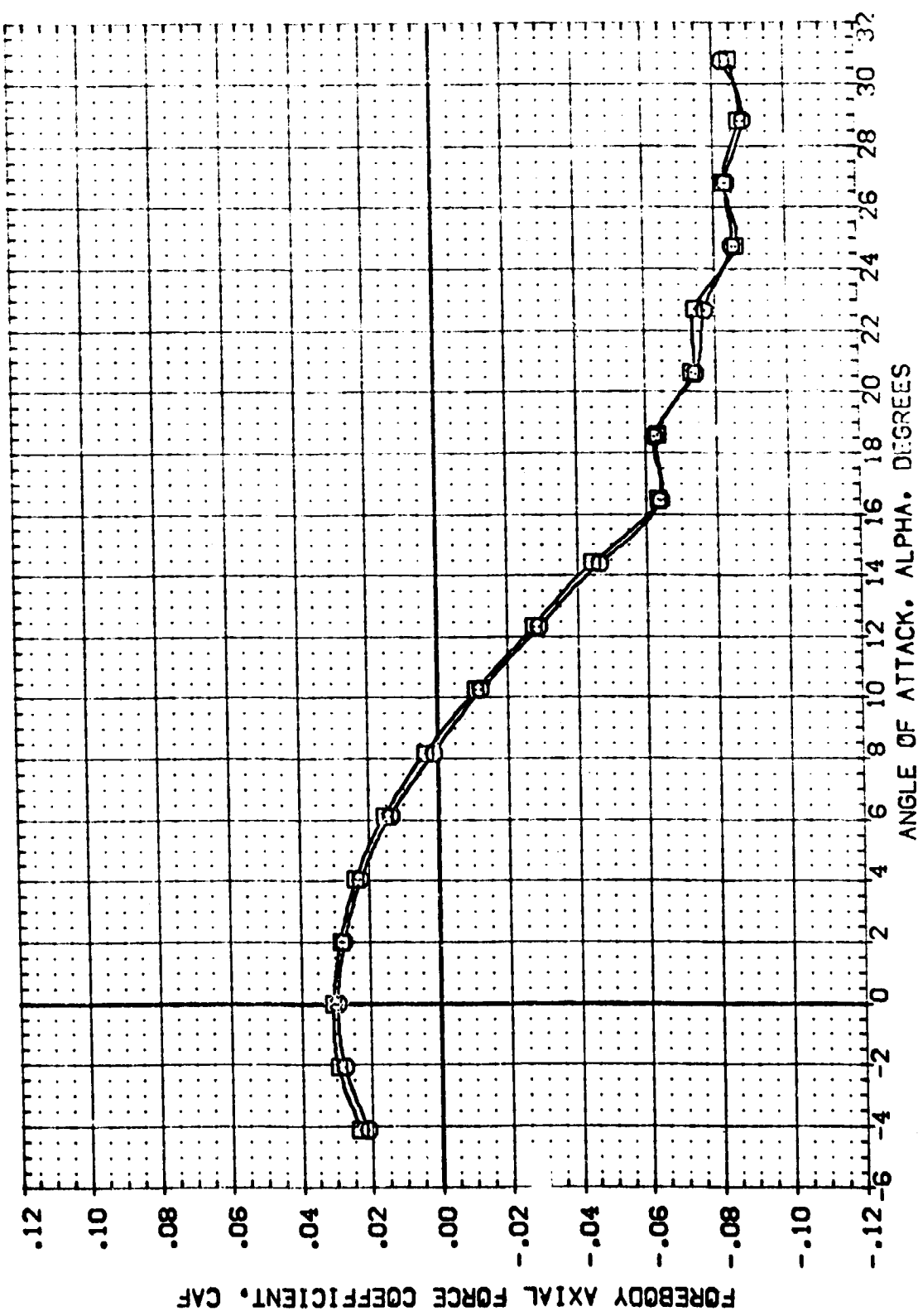


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

(A)MACH = .16

DATA SET SYMBOL
(ED2753)
(ED252)

CONFIGURATION DESCRIPTION
GA21B B21C7 M4FS V107E23VTR5
GA21B B21C7-23M4FS V107E23VTR5

ELEVON
.000
.000

CANARD
.000

SPDRK
25.000
25.000

BOFLAP
-18.000
-18.000

REFERENCE INFORMATION
SREF 4.4119 SQ.FT.
LREF 19.2283 INCHES
BREF 37.9359 INCHES
XPRP 43.5974 INCHES
YPRP .0000 INCHES
ZPRP 16.2000 INCHES
SCALE .0405

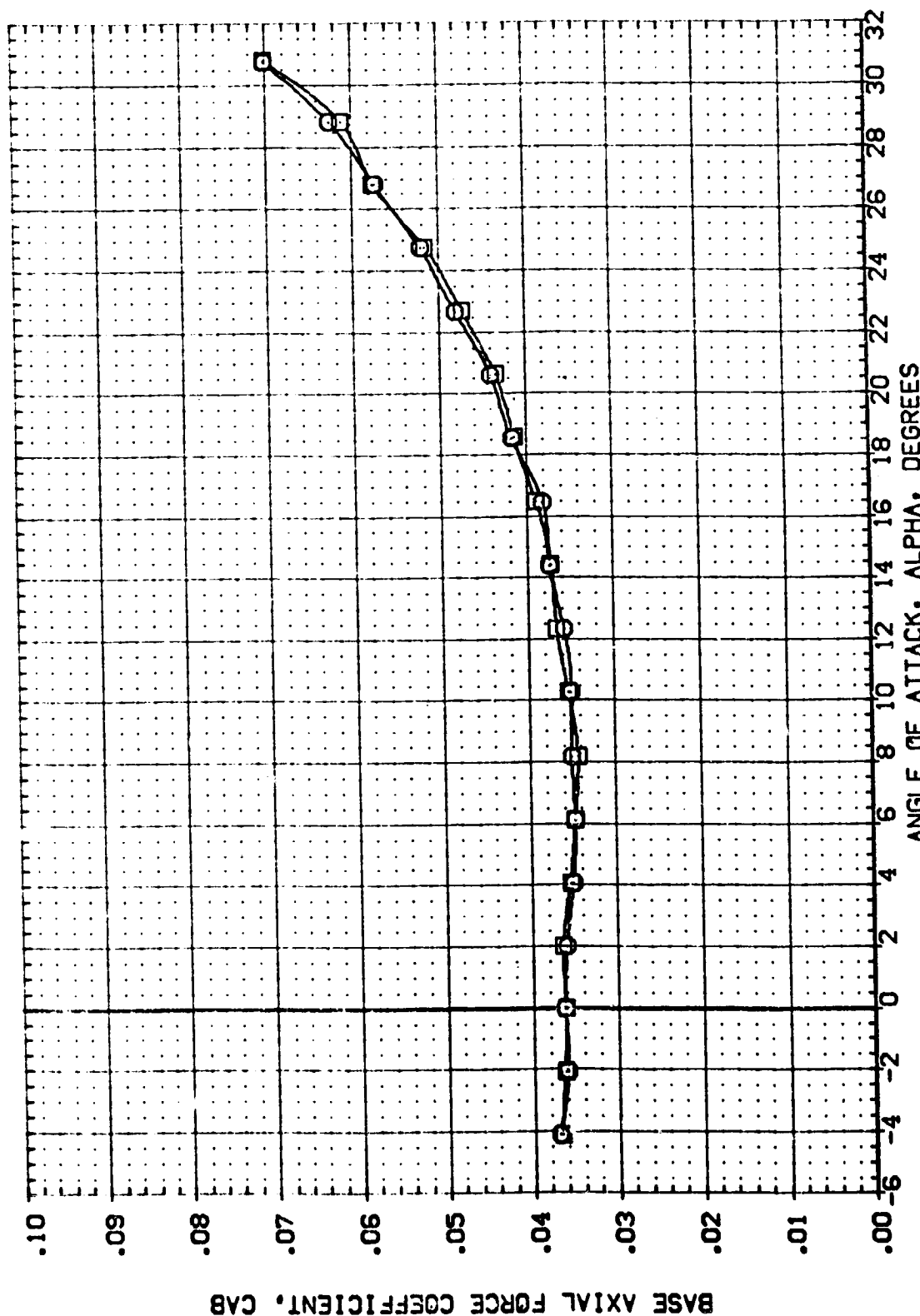


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

CAMMACH = .16

DATA SET 94238L CONFIGURATION DESCRIPTION
 (EIP253) 0A218 821C7 MAF3 V107E23V7M8
 (EIP253) 0A218 821C7H23W4F3 V107E23V7M8

ELEVON CANARD SPOILER BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SO.FT.
 LREF 19.7293 INCHES
 BREF 37.9359 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

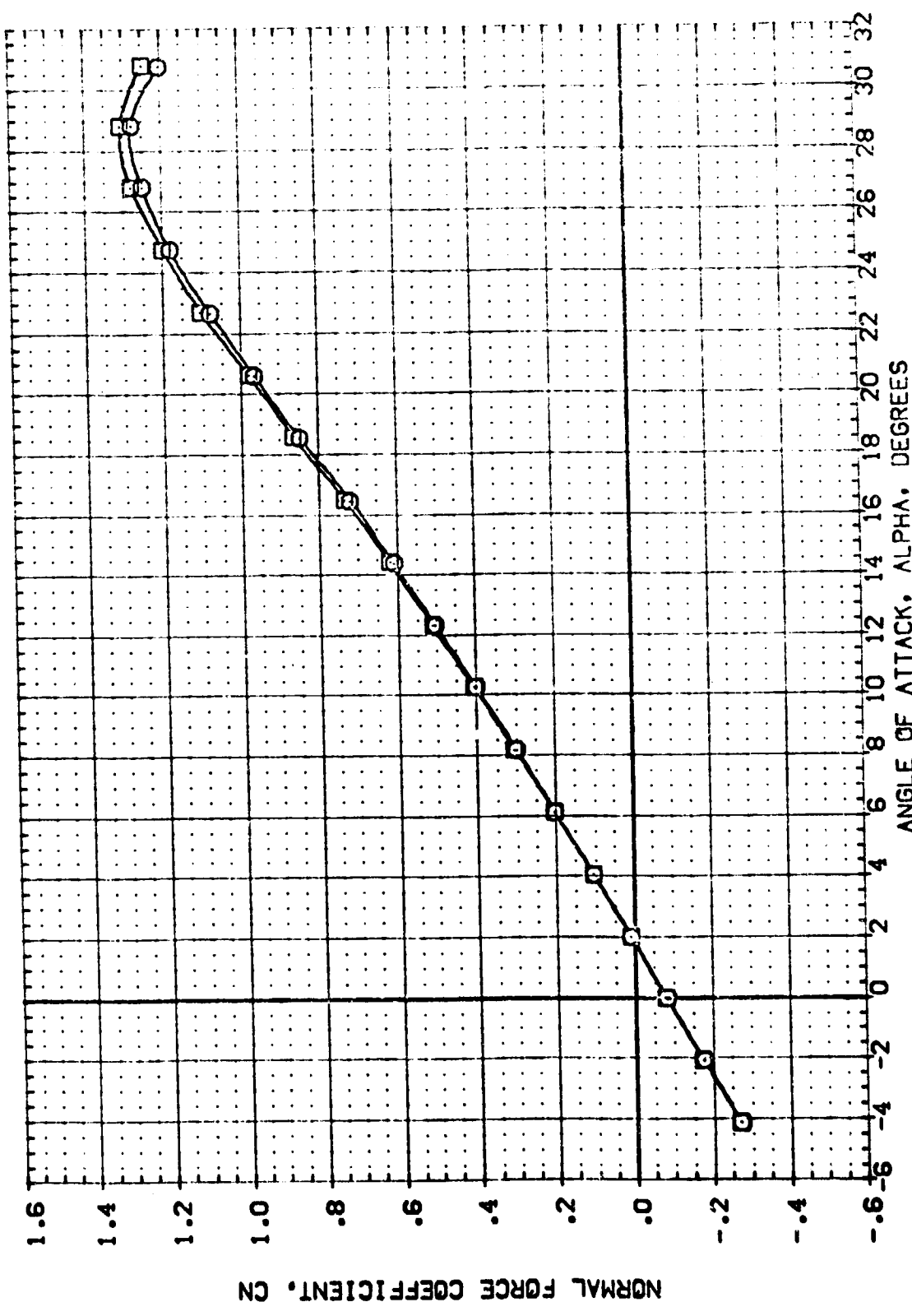


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(EDP256) □ QA218 82A17 MAFS V107E23V7R6

(EDP262) CA218 82A17H23H4F5 V107E23V7R6

ELEVON CANARD SPCBRK BOFLAP

.000 .000 25.000 -18.000

.000 .000 25.000 -18.000

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2223 INCHES

BREF 37.9339 INCHES

XMGP 43.5974 INCHES

YMGP .0000 INCHES

ZMRP 16.2000 INCHES

SCALE .0405 SCALE

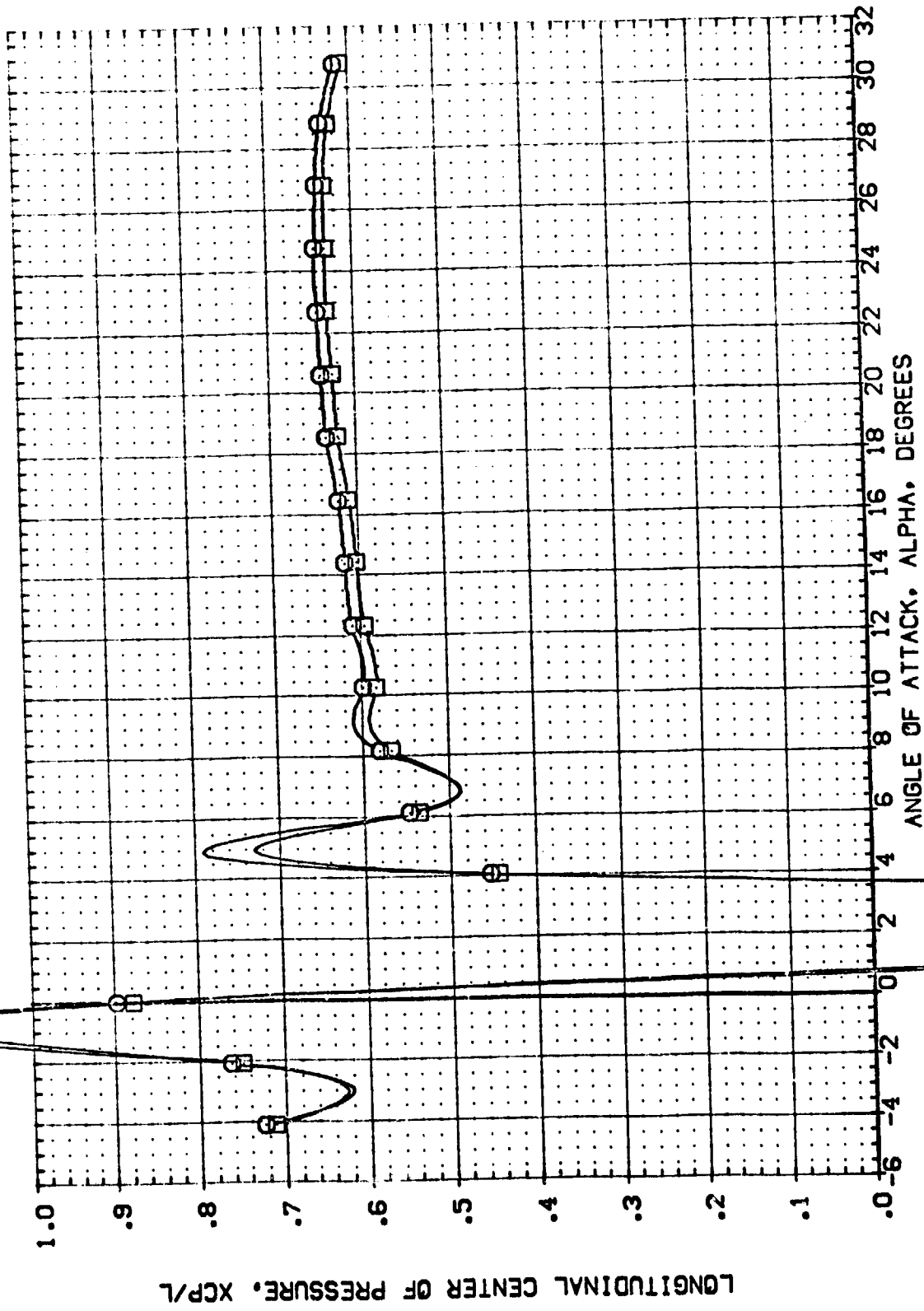


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

CAJMACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP256) 0A218 821C7 MAFS V107E23V7R6
 (EDP262) 0A218 821C7 MAFS V107E23V7R6

ELEVON CANARD SPOILER BOFLAP
 .000 .000 -18.000 -18.000
 .000 .000 -18.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.6333 INCHES
 XREF 43.5574 INCHES
 YREF 10.0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

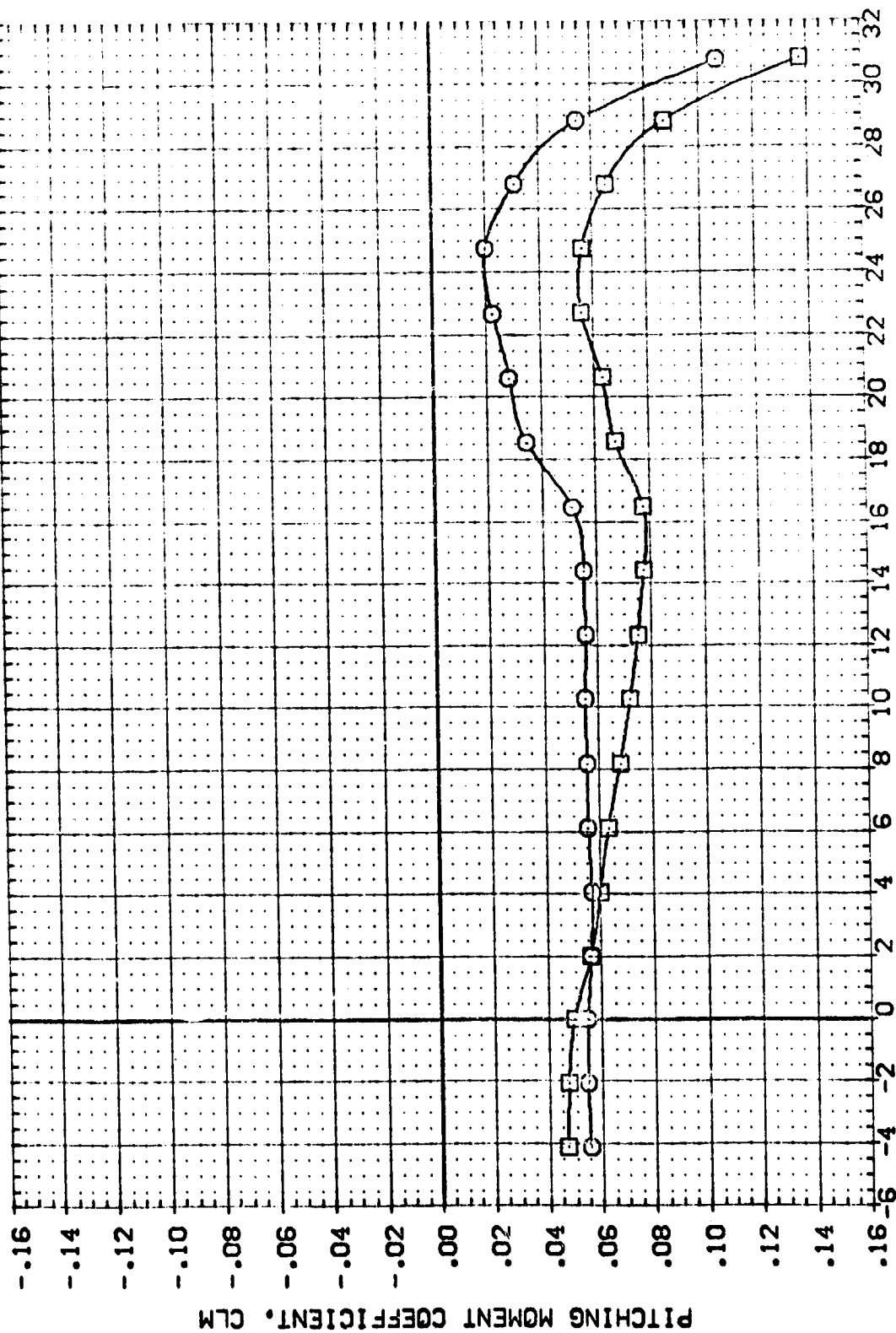


FIGURE 96 CONFIG 139B EFFECT OF (H23) NOSE CANARD

(MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDP213) □ 0A21B B1SC7H23MAFS V107E23V7RS
 (EDP250) ○ 0A21B B1SC7H23MAFS V107E23V7RS
 (EDP201) ◇ 0A21B B1SC7H3 MAFS V107E23V7RS
 (EDP207) X 0A21B B1SC7H9 MAFS V107E23V7RS

ELEVON CANARD SPOBRK BOFLAP
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 .000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 50 FT.
 LREF 19.2239 INCHES
 BREF 37.9359 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 INCHES

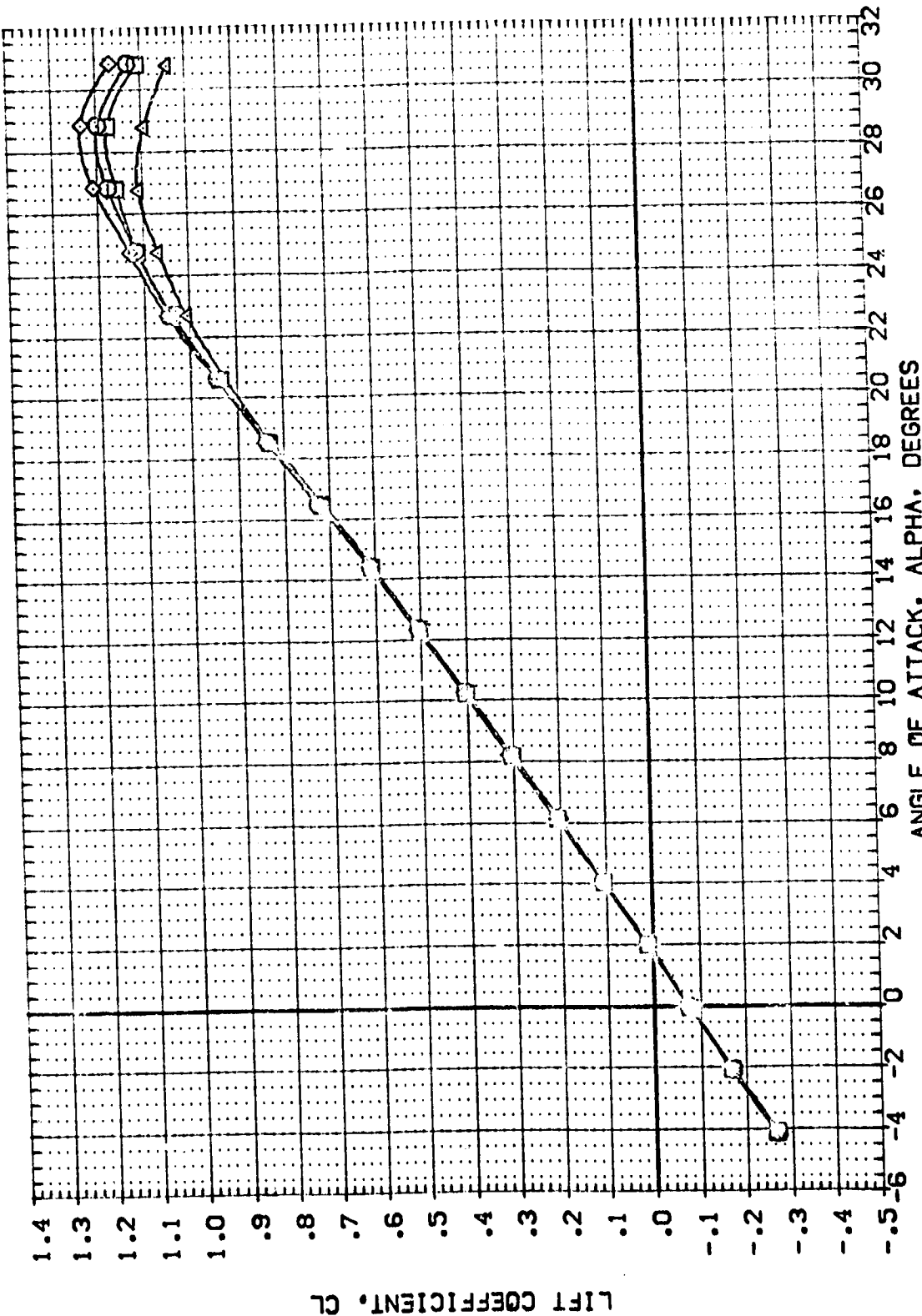


FIGURE 97 CONFIG 139B CANARD EFFECTIVENESS

(A)MACH = .16

| | | | | | | | |
|-----------------|---------------------------|--------|--------|--------|---------|-----------------------|---------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | CANARD | SPDBRK | BOFLAP | REFERENCE INFORMATION | |
| [EDP213] | QA21B B1SC7H23M4FS | .000 | .000 | 25.000 | -18.000 | SREF | 4.4119 |
| [EDP250] | QA21B B1SC7H23M4FS | .000 | .000 | 25.000 | -18.000 | LREF | 19.2298 |
| [EDP201] | QA21B B1SC7H3 M4FS | .000 | .000 | 25.000 | -18.000 | BREF | 37.9309 |
| [EDP207] | QA21B B1SC7H8 M4FS | .000 | .000 | 25.000 | -18.000 | XREF | 43.5974 |
| | | | | | | YREF | .0000 |
| | | | | | | ZREF | 16.2000 |
| | | | | | | SCALE | .0400 |
| | | | | | | | SCALE |

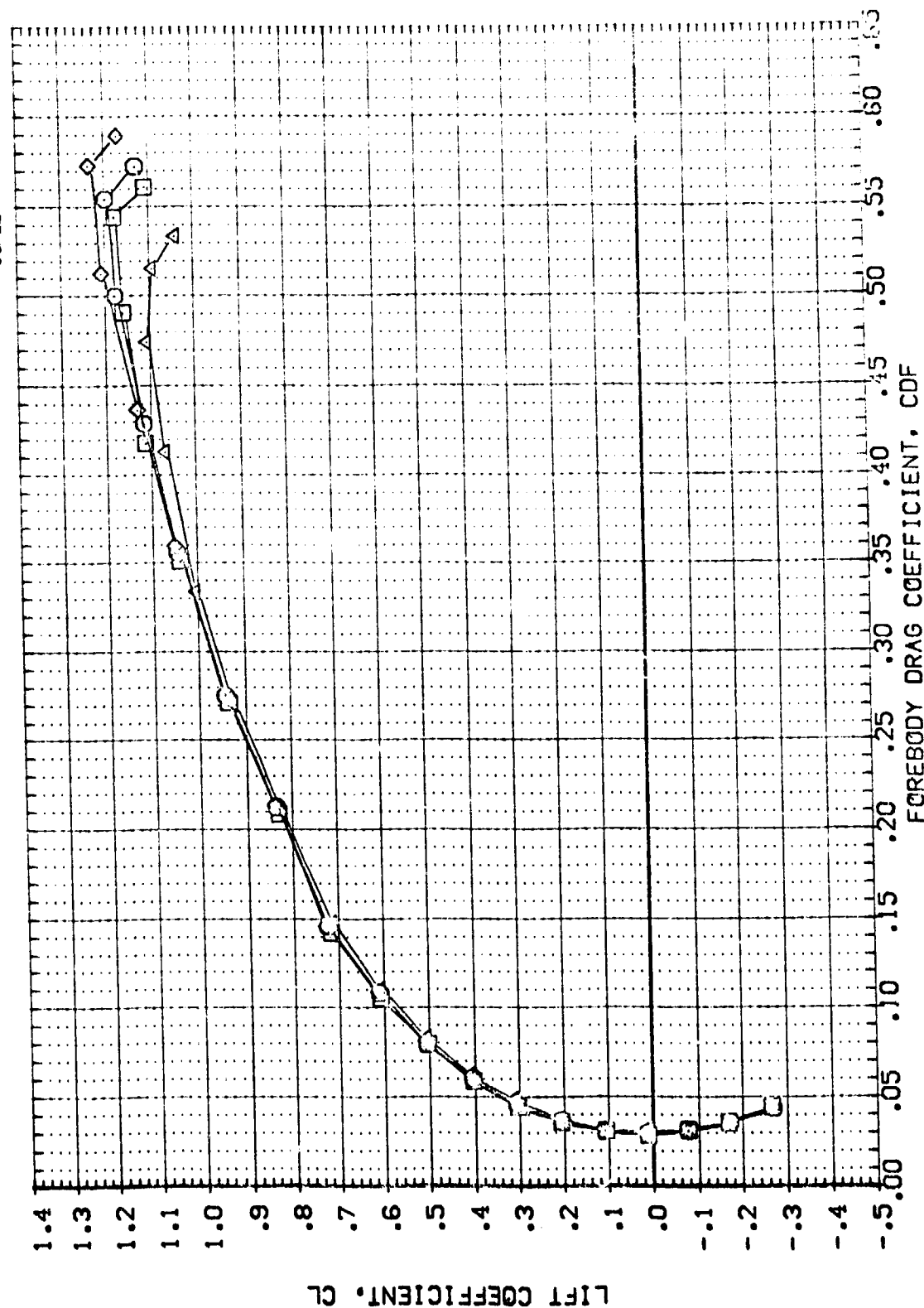


FIGURE 97 CONFIG 139B CANARD EFFECTIVENESS

(A)MACH = .16



| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | CANARD | SPOILER | BDFLAP | REFERENCE INFORMATION |
|----------|--------|---------------------------|--------|--------|---------|---------|-----------------------|
| (EDP213) | □ | GA21B B1SC7H23M4FS | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50.FT. |
| (EDP250) | ○ | GA21B B1SC7H23M4FS | .000 | .000 | 25.000 | -18.000 | UREF 19.2299 INCHES |
| (EDP201) | △ | GA21B B1SC7H23M4FS | .000 | .000 | 25.000 | -18.000 | UREF 37.6553 INCHES |
| (EDP207) | ◇ | GA21B B1SC7H23M4FS | .000 | .000 | 25.000 | -18.000 | UREF 43.5974 INCHES |
| | | | | | | | YREF 16.2000 INCHES |
| | | | | | | | ZREF 16.2000 INCHES |
| | | | | | | | SCALE .0405 |

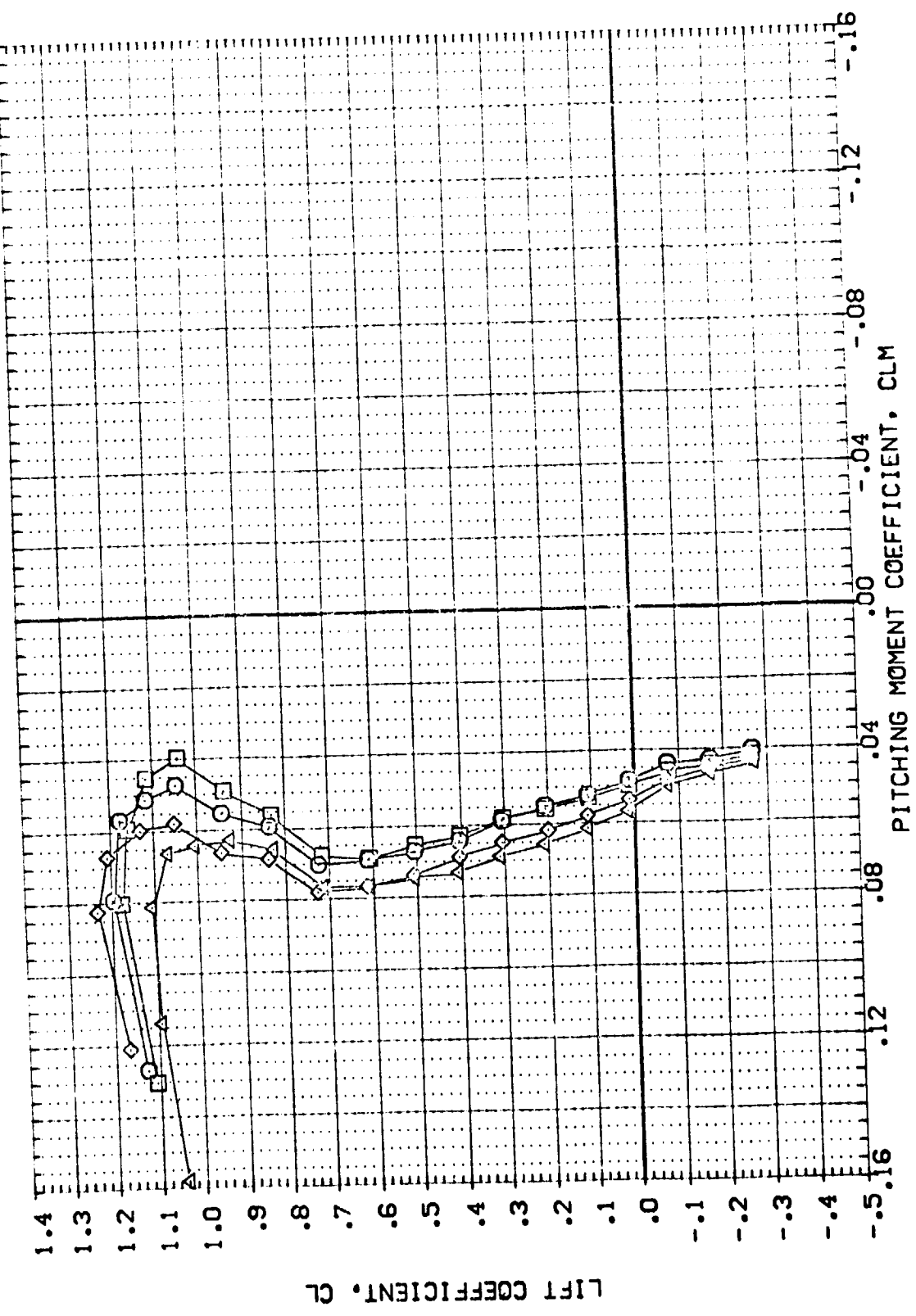


FIGURE 97 CONFIG 139B CANARD EFFECTIVENESS

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | CANARD | SPOBRK | BOFLAP | REFERENCE INFORMATION | SU.F.T. |
|-----------------|---------------------------|--------|--------|--------|---------|-----------------------|---------|
| (EDP213) | 0A21B B1SC7H23MFS | .000 | .000 | 25.000 | -18.000 | SREF | 4.4119 |
| (EDP250) | 0A21B B1SC7H23MFS | .000 | .000 | 25.000 | -18.000 | UREF | 19.2299 |
| (EDP201) | 0A21B B1SC7H3 MFS | .000 | .000 | 25.000 | -18.000 | BREF | 37.9369 |
| (EDP207) | 0A21B B1SC7H9 MFS | .000 | .000 | 25.000 | -18.000 | XREF | 43.5974 |
| | | | | | | YREF | .0000 |
| | | | | | | ZREF | 16.2000 |
| | | | | | | SCALE | .0105 |

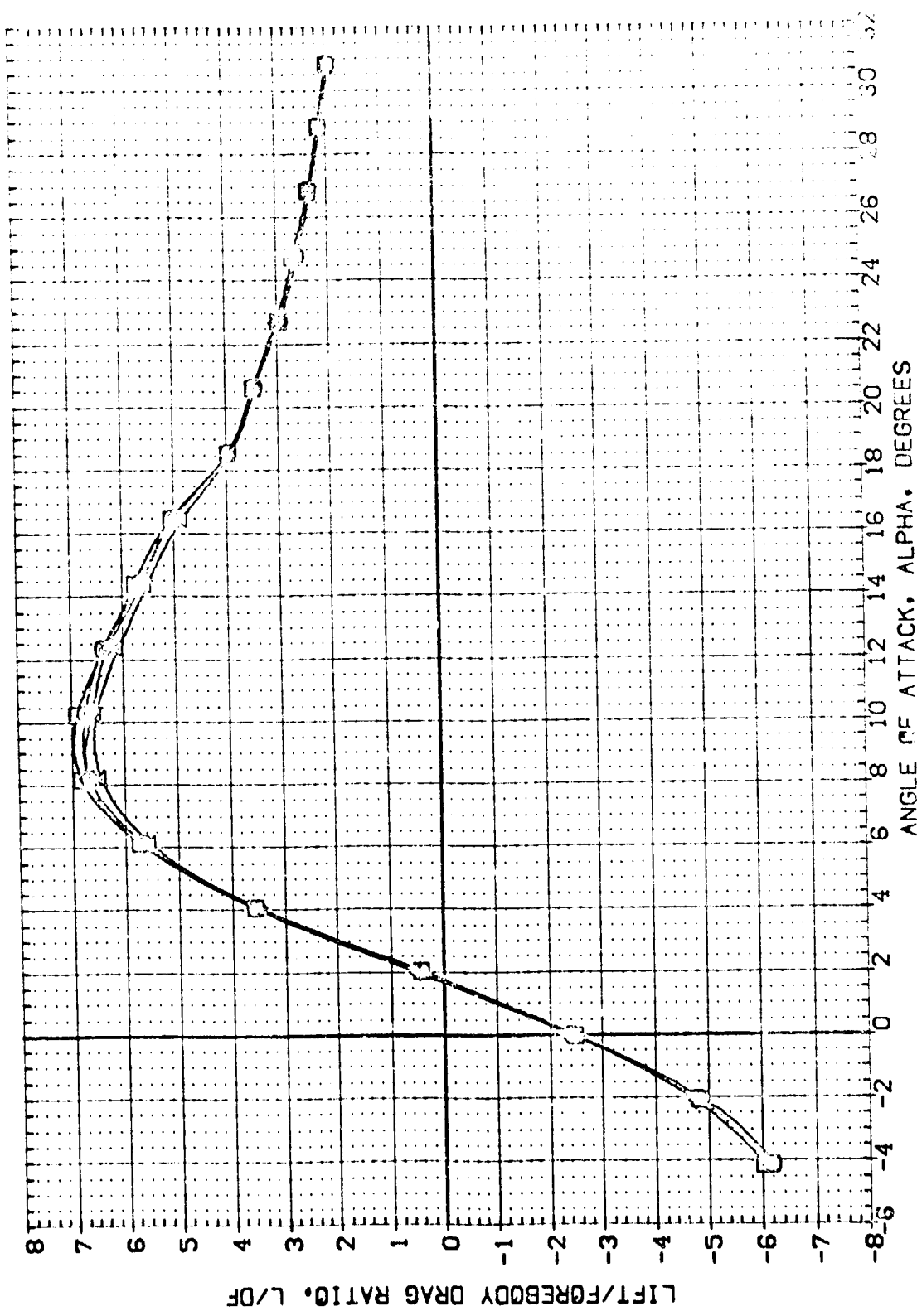


FIGURE 97 CONFIG 139B CANARD EFFECTIVENESS

(A)MACH = .15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | | | |
|----------|-------|--------------|-------------|
| (EDP213) | 0A218 | B1SC7H23M4F5 | V107E23V7R6 |
| (EDP250) | 0A218 | B1SC7H23M4F5 | V107E23V7R6 |
| (EDP201) | 0A218 | B1SC7H3M4F5 | V107E23V7R6 |
| (EDP207) | 0A218 | B1SC7H3M4F5 | V107E23V7R6 |

ELEVATION CANARD SPDBRK BOFLAP

| | | | |
|------|------|--------|---------|
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |

REFERENCE INFORMATION

| | | | |
|-------|---------|--------|--------|
| SREF | 4.1119 | SOFT | INCHES |
| LREF | 19.2273 | INCHES | |
| BREF | 37.1503 | INCHES | |
| YREF | 43.1574 | INCHES | |
| ZREF | 16.0000 | INCHES | |
| SCALE | .0405 | SCALE | |

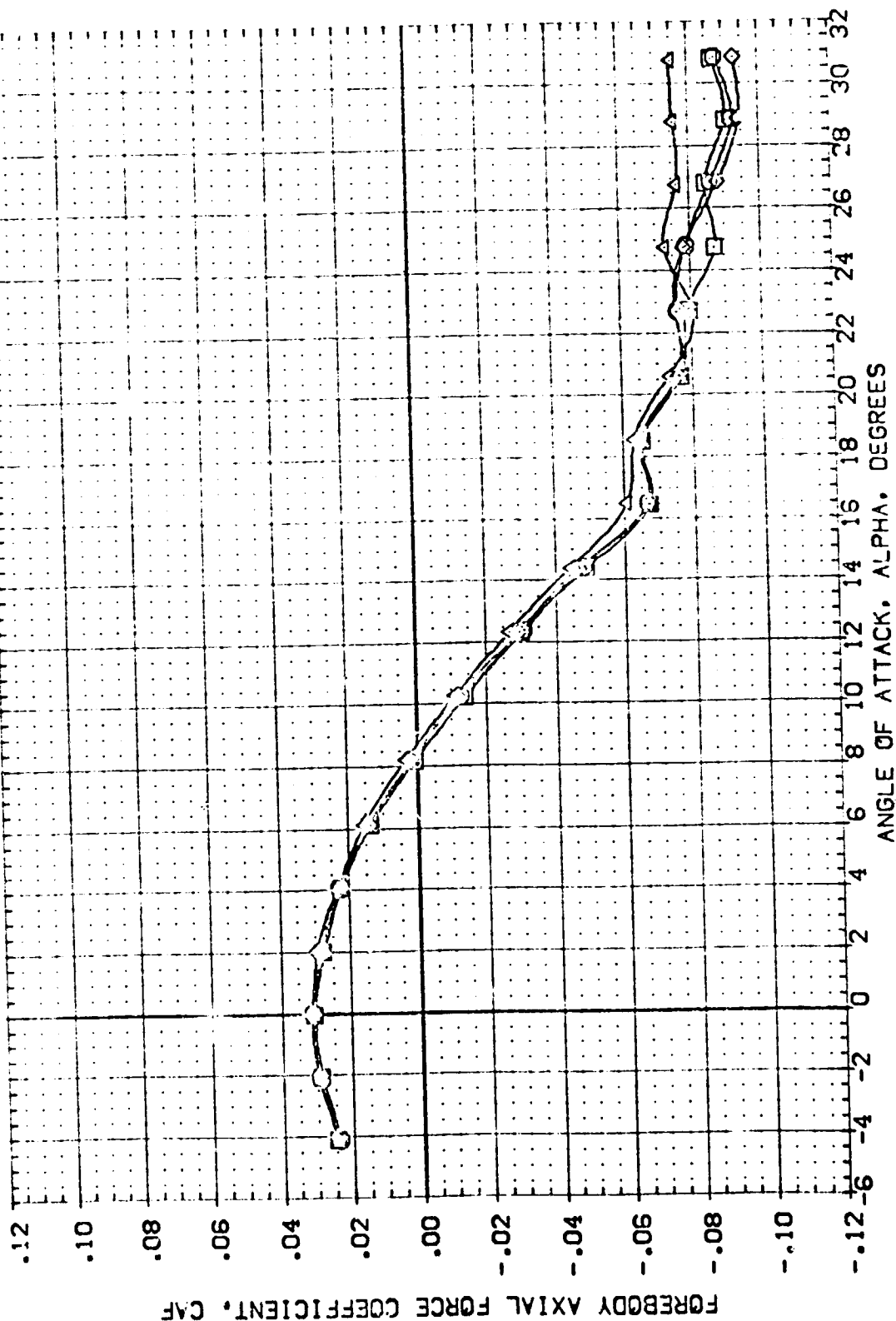


FIGURE 97 CONFIG 139B CANARD EFFECTIVENESS

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | |
|----------|-------------------|
| (EDP213) | CA21B BISC7H3HAFS |
| (EDP250) | CA21B BISC7H3HAFS |
| (EDP201) | CA21B BISC7H3HAFS |
| (EDP207) | CA21B BISC7H3HAFS |

ELEVON CANARD SPOILER BOFLAP

| | | | |
|------|------|--------|---------|
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |
| .000 | .000 | 25.000 | -18.000 |

REFERENCE INFORMATION

| | | |
|-------|---------|--------|
| SREF | 4.4119 | 50.175 |
| LPREF | 19.2229 | 70.175 |
| BPREF | 37.5538 | 70.175 |
| XPREF | 43.5874 | 70.175 |
| YPRP | 0.0000 | INCHES |
| ZPRP | 16.2000 | INCHES |
| SCALE | .0435 | SCALE |

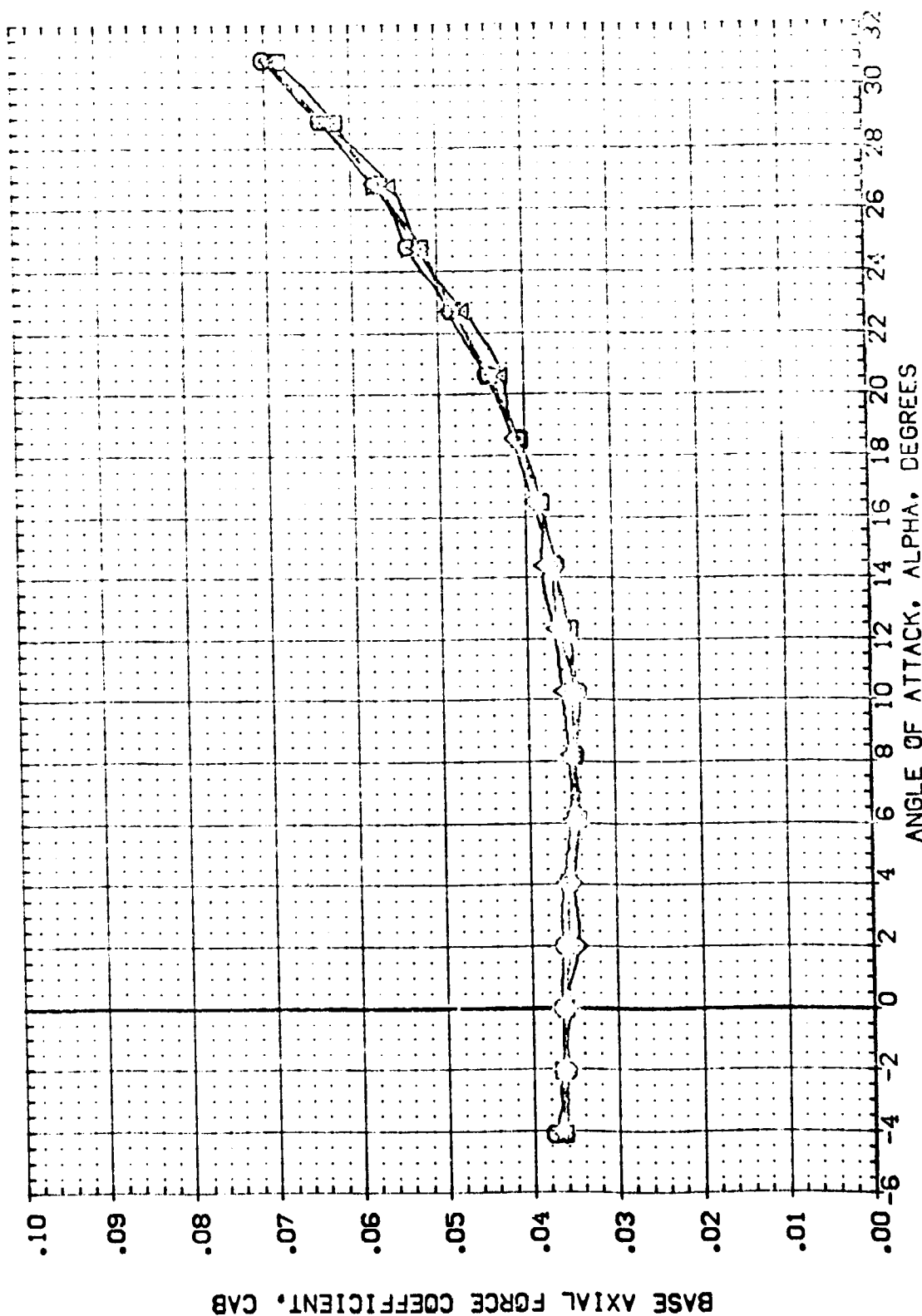


FIGURE 97 CONFIG 139B CANARD EFFECTIVENESS

(M)MACH = .16



| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | CANARD | SPDRK | BOFLAP | REFERENCE INFORMATION |
|----------|--------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (ED213) | □ | QA21B B1SC7A23M4FS V107E23V7RG | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ED250) | □ | QA21B B1SC7A23M4FS V107E23V7RG | .000 | .000 | 25.000 | -18.000 | LREF 19.2339 INCHES |
| (ED201) | × | QA21B B1SC7A23M4FS V107E23V7RG | .000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ED207) | × | QA21B B1SC7A23M4FS V107E23V7RG | .000 | .000 | 25.000 | -18.000 | YMRP 43.9974 INCHES |
| | | | | | | | ZMRP .0000 INCHES |
| | | | | | | | SCALE 16.2000 INCHES |
| | | | | | | | |

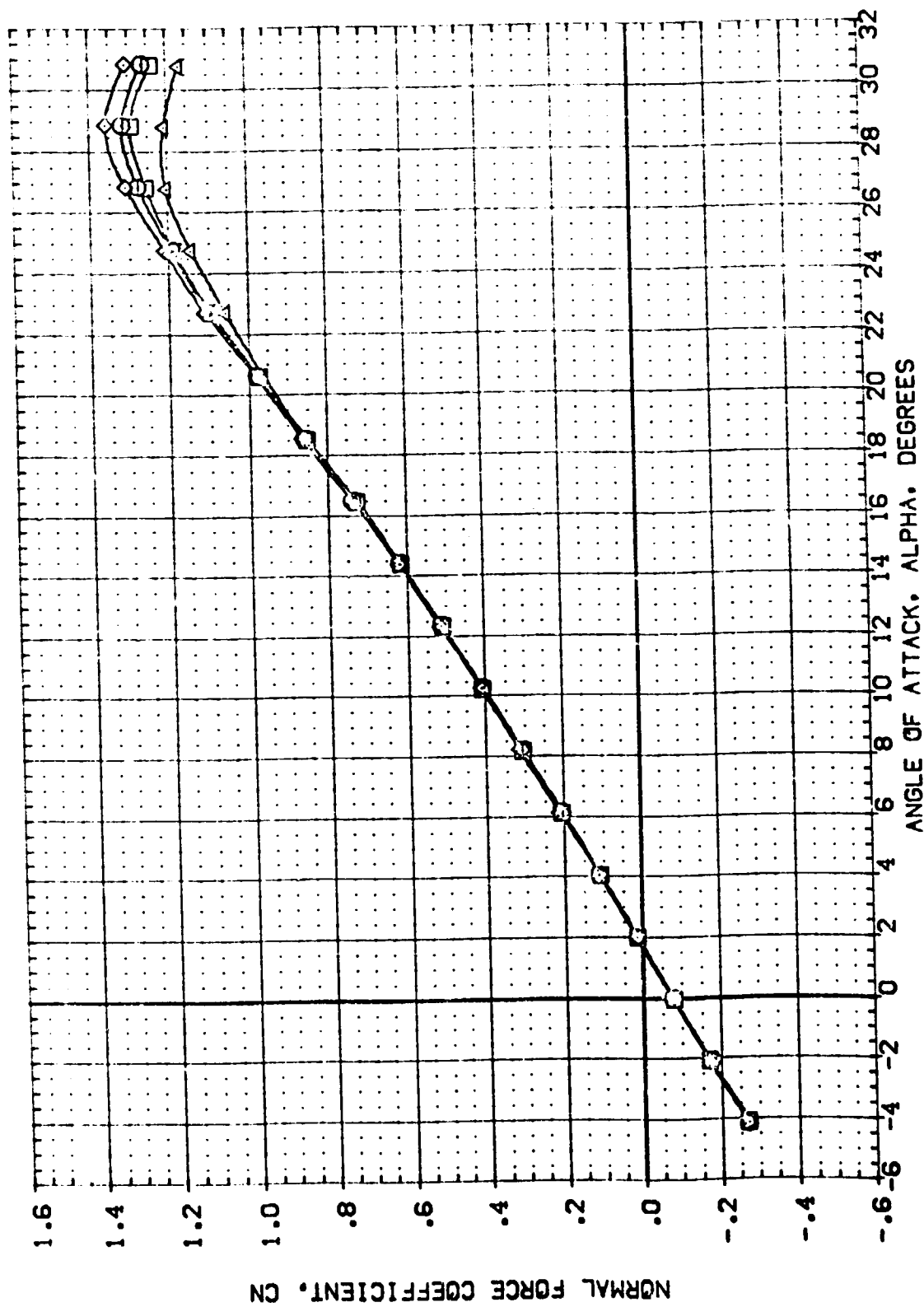


FIGURE 97 CONFIG 1398 CANARD EFFECTIVENESS

(A)MACH = .16

| | | | | | | |
|-----------------|-------------------------------|--------|--------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | CANARD | SPOROK | BOFLAP | REFERENCE INFORMATION |
| (EDP213) | 0A21B B1SC7H23M4S V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50.415 |
| (EDP214) | 0A21B B1SC7H23M4S V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2799 19.415 |
| (EDP215) | 0A21B B1SC7H23M4S V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | BREF 37.9579 37.9579 |
| (EDP216) | 0A21B B1SC7H23M4S V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | XREF 43.5079 43.5079 |
| (EDP217) | 0A21B B1SC7H23M4S V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | YREF 16.2000 16.2000 |
| | | | | | | ZREF 16.2000 16.2000 |
| | | | | | | SCALE .0400 |

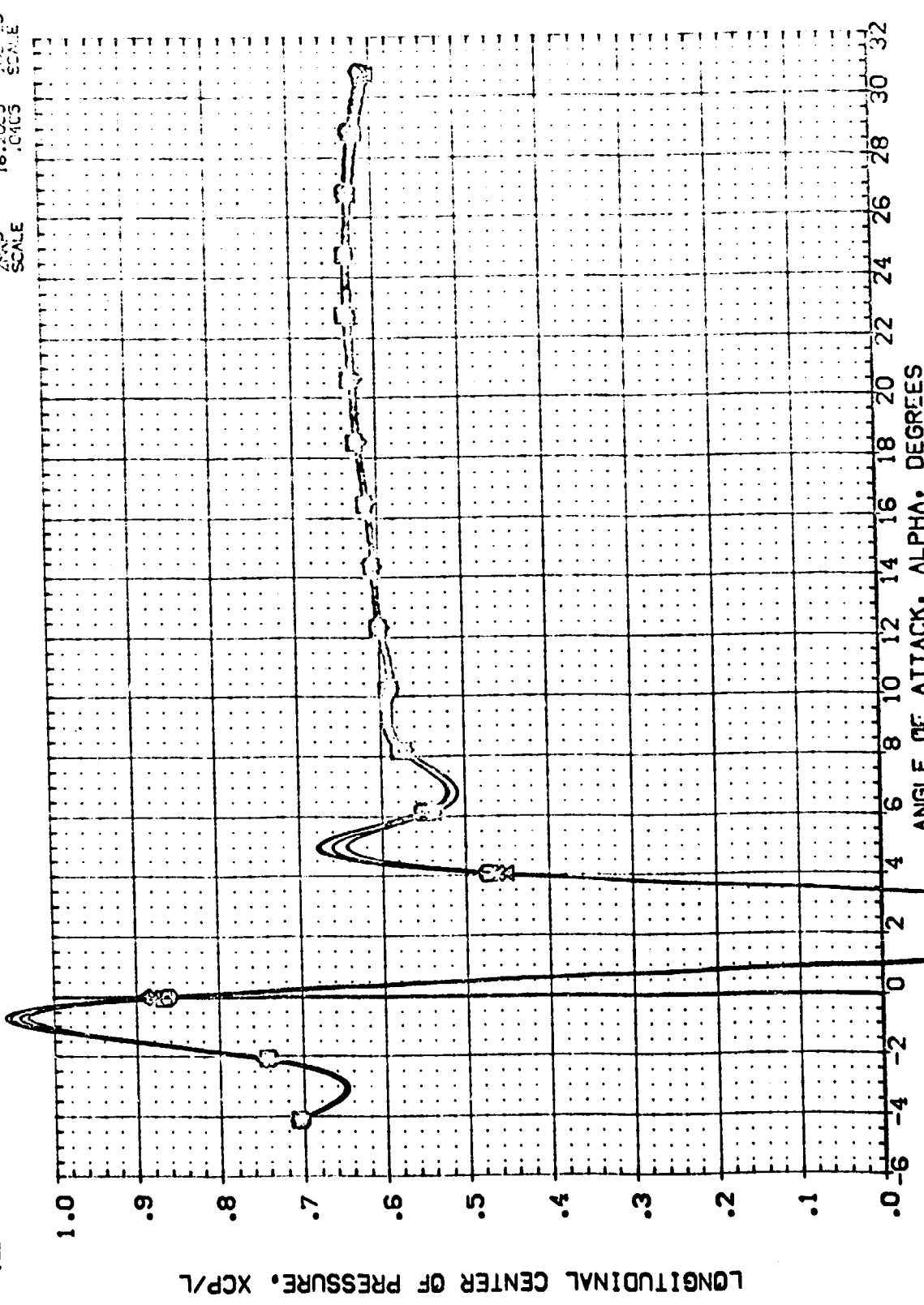


FIGURE 97 CONFIG 139B CANARD EFFECTIVENESS

(A)MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ELEVON | CANARD | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|-------------------------------|--------|--------|--------|---------|-----------------------|
| (EDP213) | GA218 B1SC7H23MFS V107E23V7RS | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (EDP220) | GA218 B1SC7H23MFS V107E23V7RS | .000 | .000 | 25.000 | -18.000 | LREF 19.2231 INCHES |
| (EDP201) | GA218 B1SC7H23MFS V107E23V7RS | .000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (EDP207) | GA219 B1SC7H9 MFS V107E23V7RS | .000 | .000 | 25.000 | -18.000 | WREF 43.5974 INCHES |
| | | | | | | YREF 16.2000 INCHES |
| | | | | | | ZREF .0403 SCALE |

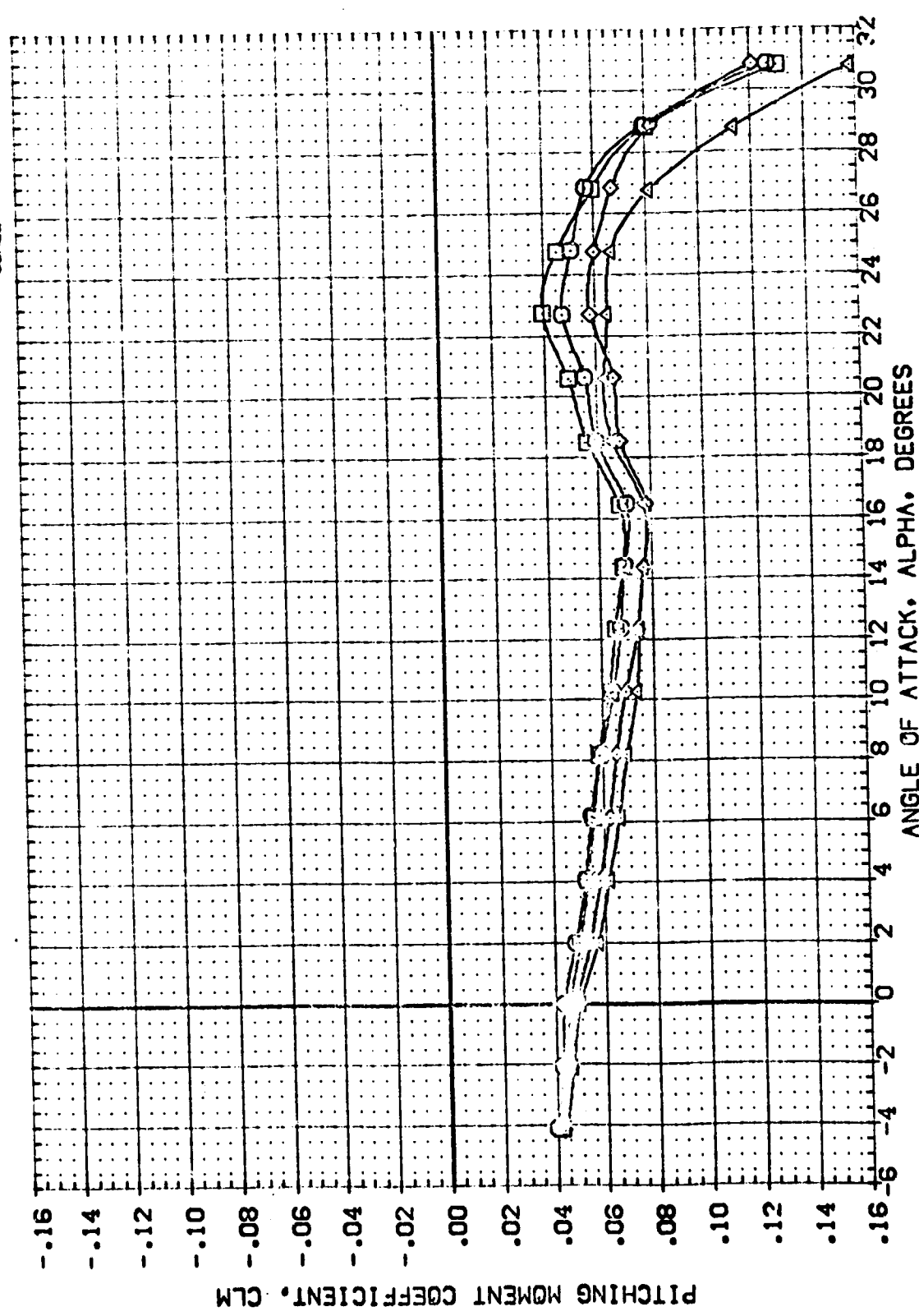


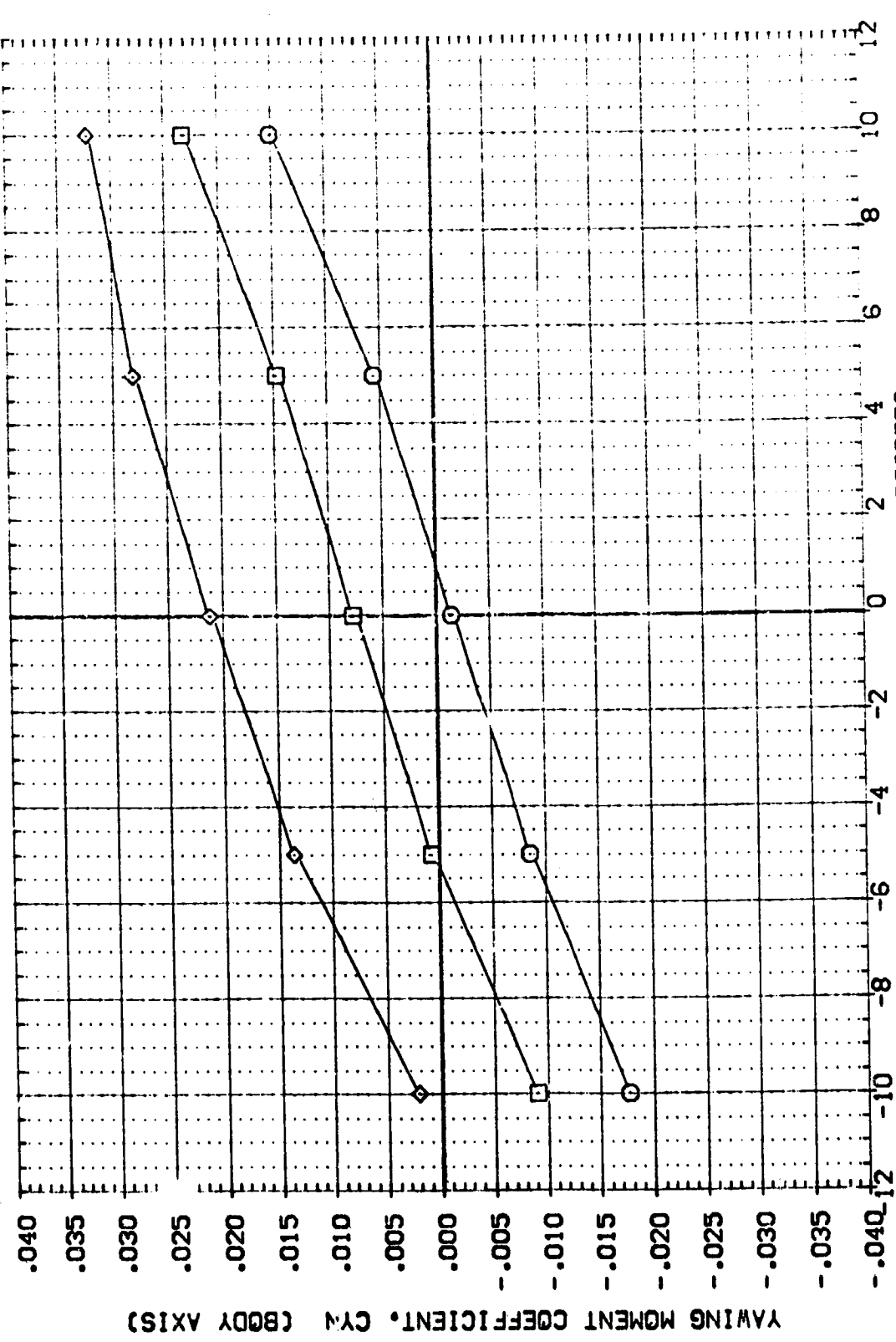
FIGURE 97 CONFIG 1398 CANARD EFFECTIVENESS

CAJMACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADP214) Q 0A218 B19C7H23MFS V107E23V7R6
 (ADP219) Q 0A218 B19C7H23MFS V107E23V7R6
 (ADP224) Q 0A218 B19C7H23MFS V107E23V7R6

ALPHA RUDDER SPDRBK BOFLAP
 .000 .000 25.000 -18.000
 .000 -7.50 25.000 -18.000
 .000 -15.00 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SC.FT
 LREF 19.2259 SC.FT
 EREF 37.9339 SC.FT
 XREF 43.5274 SC.FT
 YREF .0000 SC.FT
 ZREF 16.2000 SC.FT
 SCALE .0100



SIDESLIP ANGLE, BETA, DEGREES

FIGURE 98 CONFIG 1398 RUDDER EFFECTIVENESS ALPHA = 0

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| | | | |
|--------|-------|--------------|-------------|
| ADP214 | CA218 | B18C7H23M4F5 | V107E23V7R5 |
| ADP215 | CA218 | B18C7H23M4F5 | V107E23V7R5 |
| ADP224 | CA218 | B18C7H23M4F5 | V107E23V7R5 |

REFERENCE INFORMATION

| | | | | | | |
|-------|---------|--------|---------|-------|---------|--------|
| ALPHA | RUDDER | SPDRBK | BOFLAP | SREF | 4.4118 | 50 FT |
| .000 | .000 | 25.000 | -18.000 | LREF | 19.2000 | 25.000 |
| .000 | -7.500 | 25.000 | -18.000 | BREF | 37.5000 | 25.000 |
| .000 | -15.000 | 25.000 | -18.000 | YREF | 43.0000 | 25.000 |
| | | | | ZREF | 16.2000 | 25.000 |
| | | | | SCALE | 0.005 | INCHES |

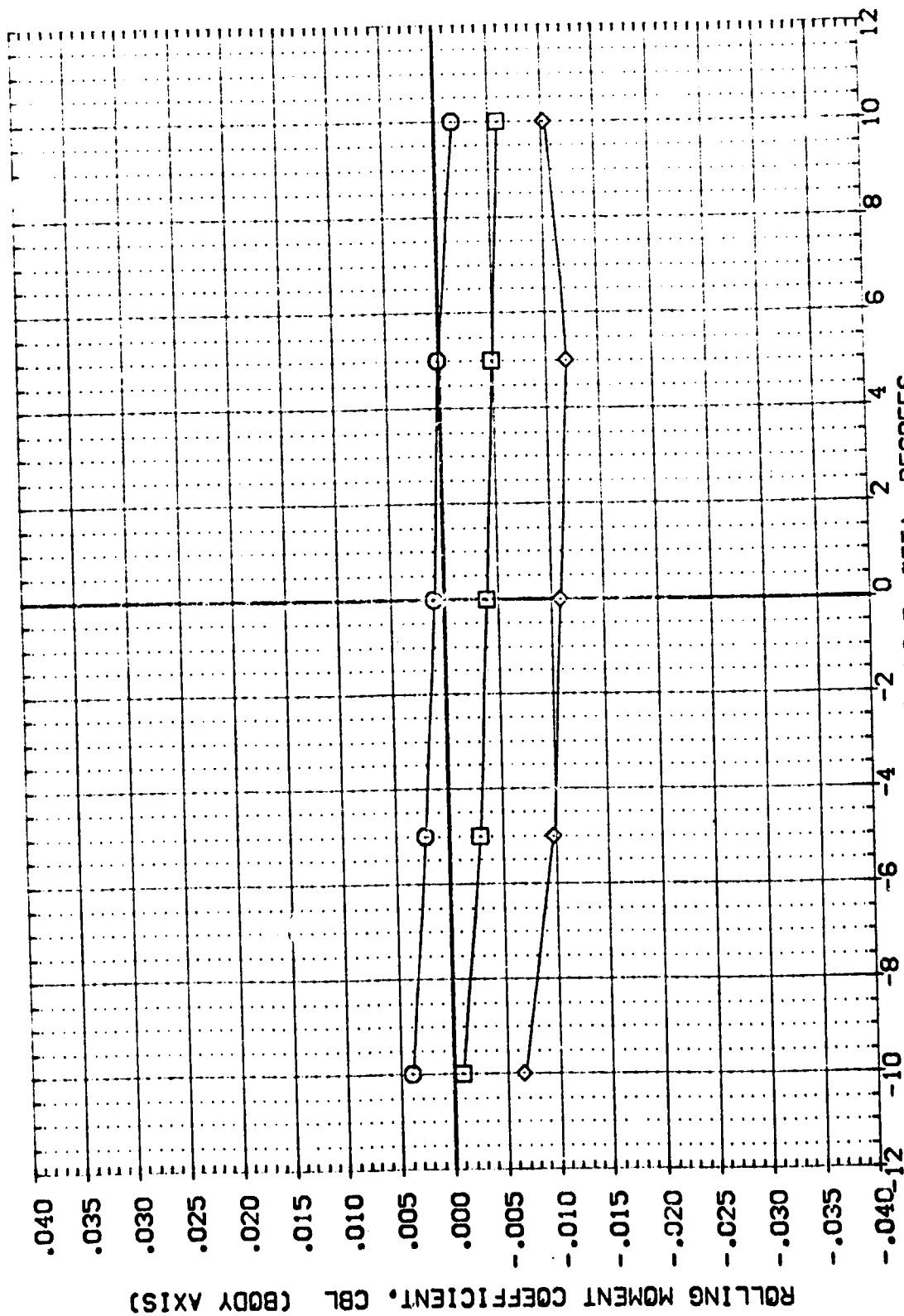


FIGURE 98 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 0

CAJ MACH = .16

| | | | | | | |
|-----------------|--------------------------------|-------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | EDFLAP | REFERENCE INFORMATION |
| (ADP214) | 0A21B B1SC7H23M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 |
| (ADP219) | 0A21B B1SC7H23M4F5 V107E23V7R6 | .000 | -7.500 | 25.000 | -18.000 | LREF 19.2239 |
| (ADP224) | 0A21B B1SC7H23M4F5 V107E23V7R6 | .000 | -15.000 | 25.000 | -18.000 | BREF 37.5309 |
| | | | | | | XREF 43.5374 |
| | | | | | | YREF .0000 |
| | | | | | | ZREF 16.2000 |
| | | | | | | SCALE .0400 |

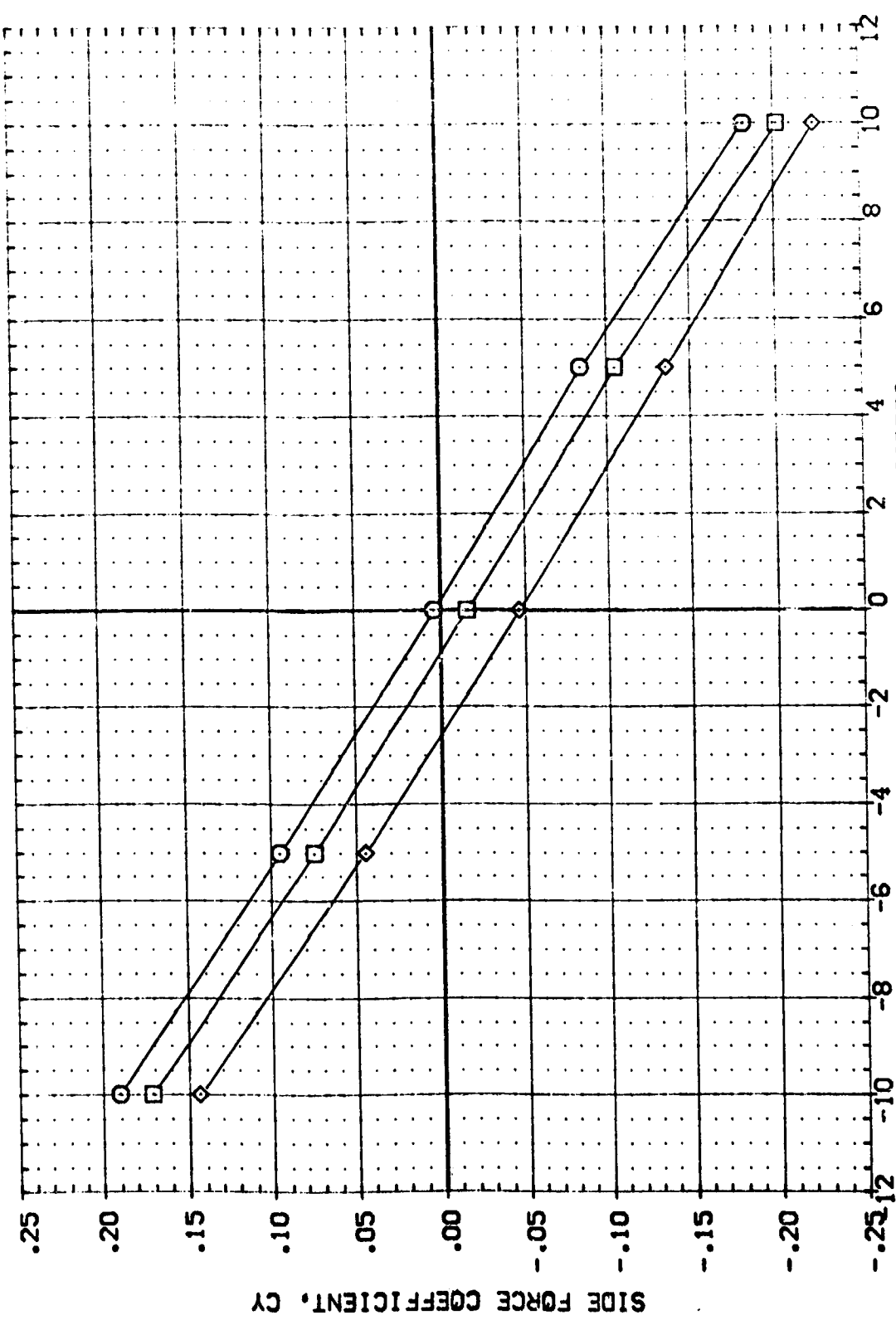


FIGURE 98 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 0

(MACH = .16

DATA SET SYMBOL
 (AD215)
 (AD220)
 (AD225)

CONFIGURATION DESCRIPTION
 QA21B B19C7H23MFS V107E23V7R6
 QA21B B19C7H23MFS V107E23V7R6
 QA21B B19C7H23MFS V107E23V7R6

ALPHA 5.000
 5.000
 5.000

RUDDER .000
 -7.500
 -15.000

SPEED 25.000
 25.000
 25.000

BOFLAP -18.000
 -18.000
 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SO.FT.
 LREF 19.2203 INCHES
 BREF 37.6309 INCHES
 XREF 43.5974 INCHES
 YREF 16.2000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0100

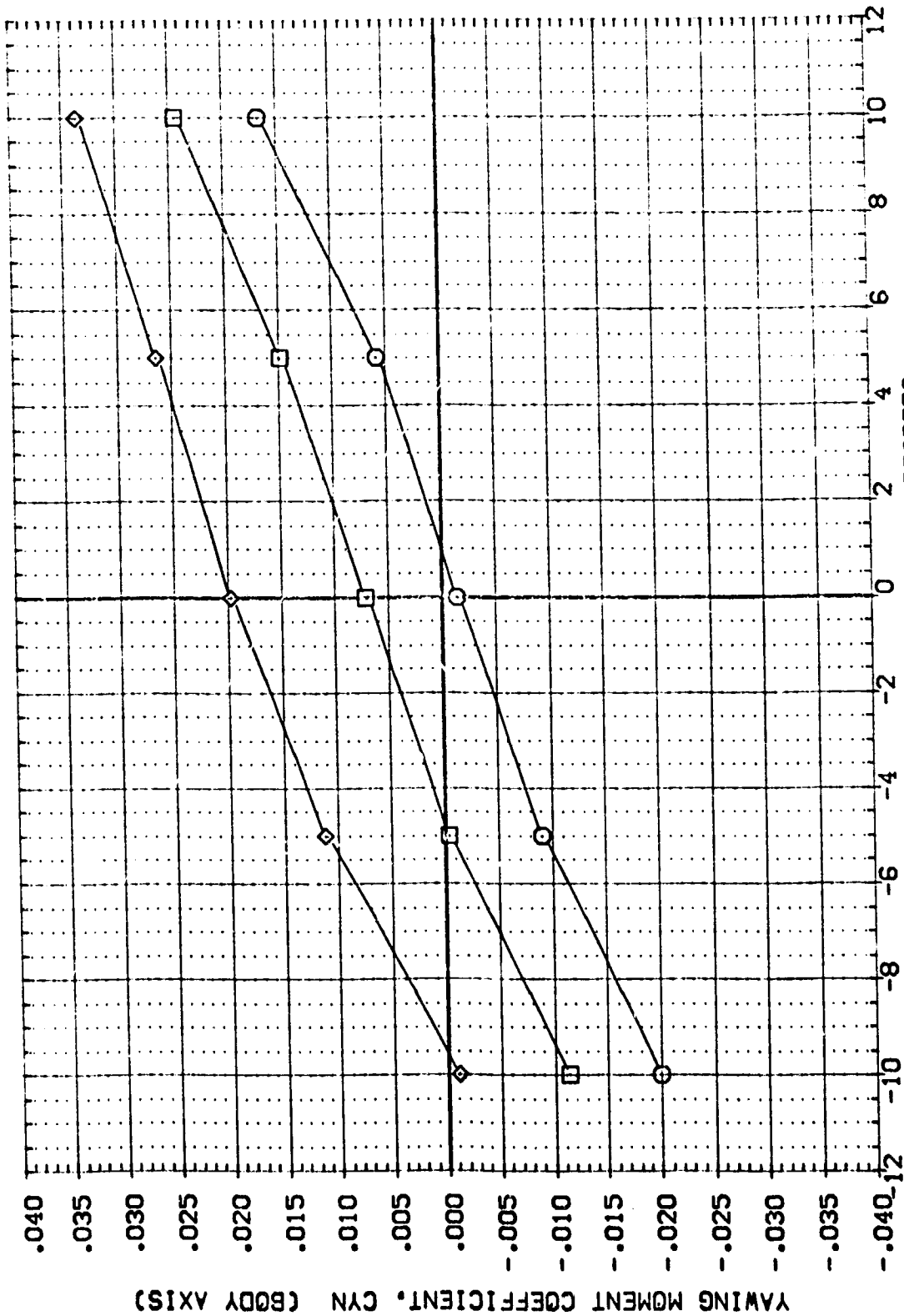
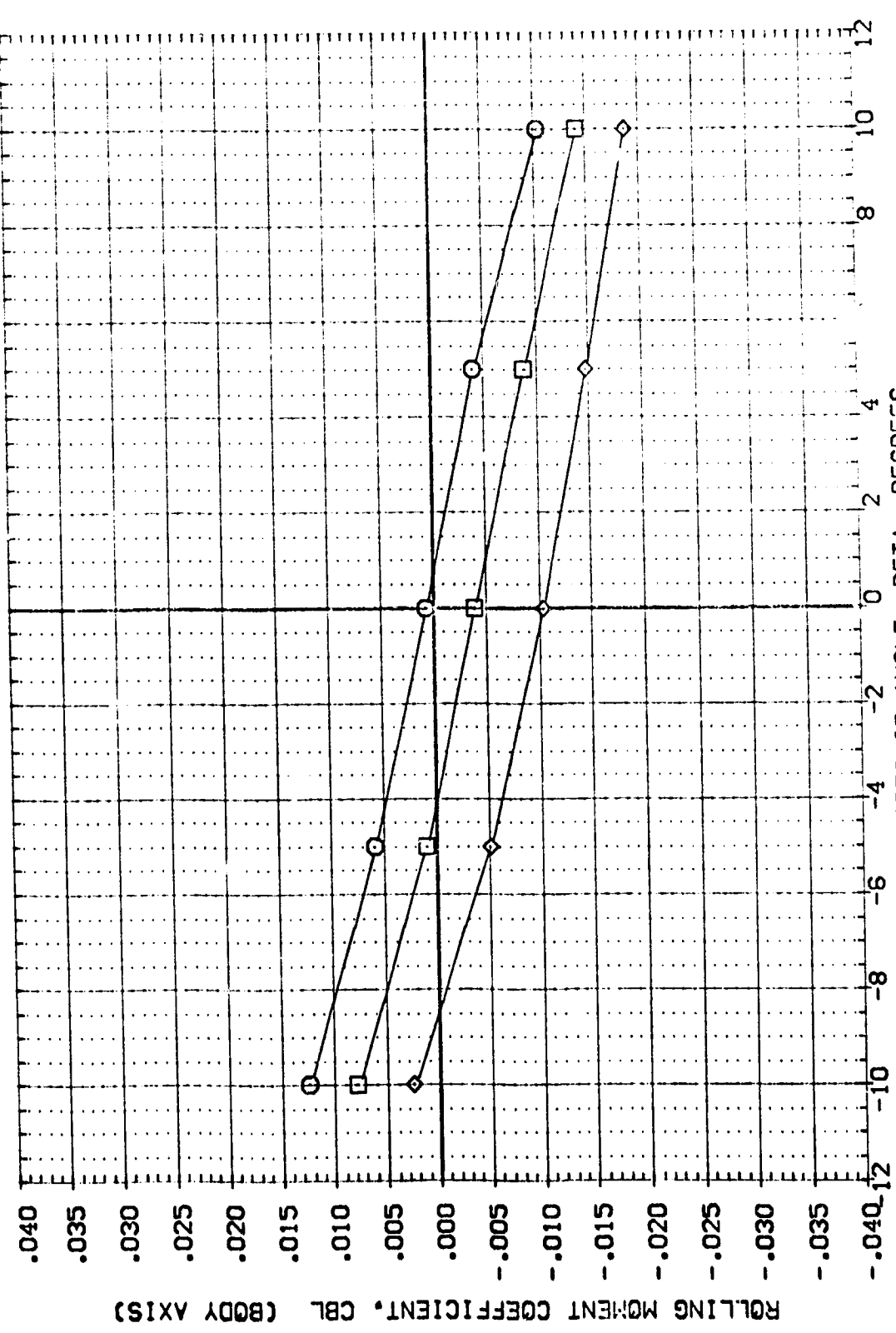


FIGURE 99 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 5
 (A)MACH = .16

| | | | | | | |
|-----------------|-------------------------------|-------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOONK | DOFLAP | REFERENCE INFORMATION |
| [ADP215] | 0A218 B1SC7H234F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT |
| [ADP220] | 0A218 B1SC7H234F5 V107E23V7R6 | 5.000 | -7.500 | 25.000 | -18.000 | LREF 19.2799 INC.553 |
| [ADP225] | 0A218 B1SC7H234F5 V107E23V7R6 | 5.000 | -15.000 | 25.000 | -18.000 | BREF 37.8574 INC.1000 |
| | | | | | | VMRP .0000 INC.1000 |
| | | | | | | ZMRP 16.2000 INC.1000 |
| | | | | | | SCALE .0405 SCALE |



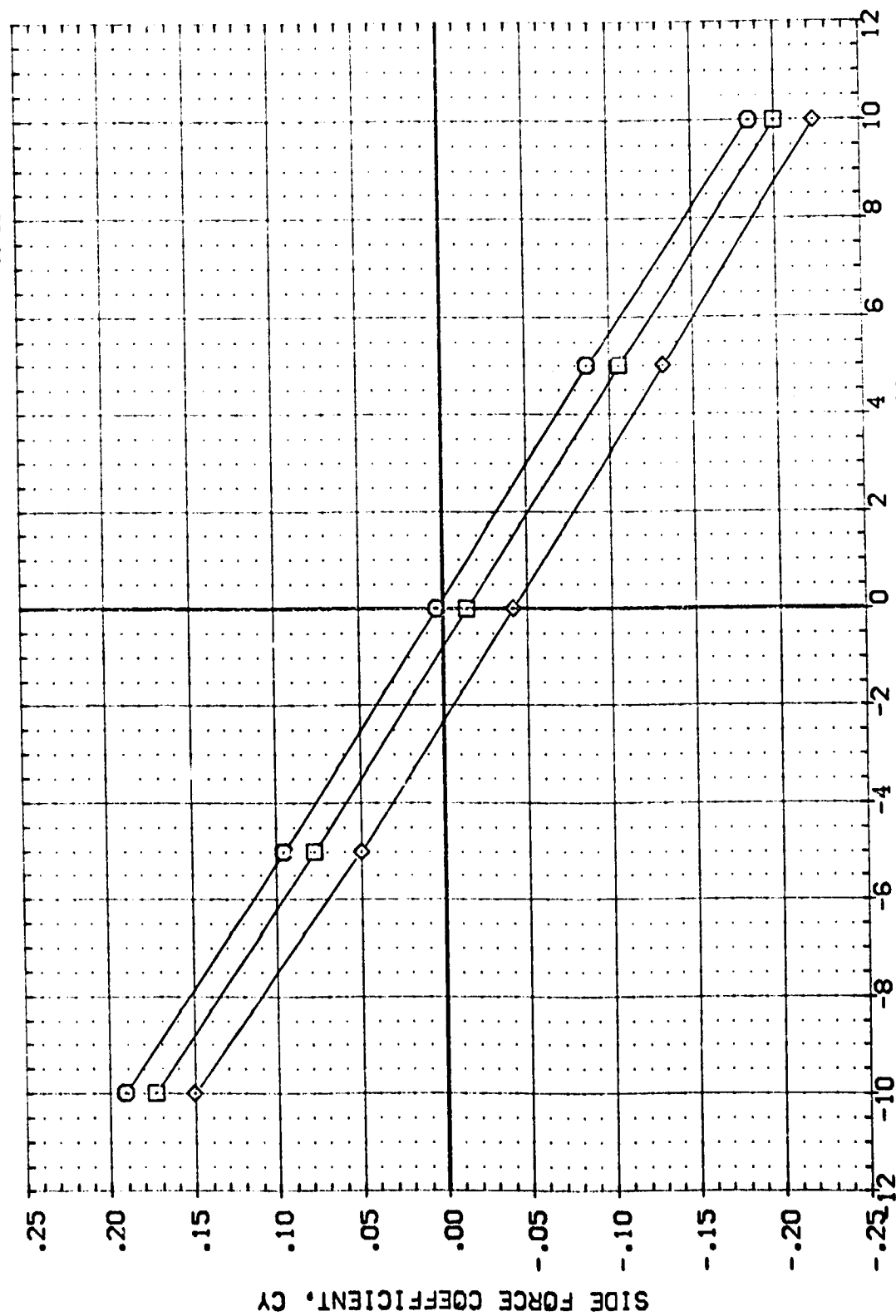
SIDESLIP ANGLE, BETA, DEGREES

FIGURE 99 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 5

(A)MACH = .16



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | BDFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|-------|---------|--------|---------|-----------------------|
| (ADP215) | 0A21B 81SC7H23M4FS V107E23VTR6 | 5.000 | .000 | 25.000 | -10.000 | SREF 4.4119 SQ.FT. |
| (ADP220) | 0A21B 81SC7H23M4FS V107E23VTR6 | 5.000 | -7.500 | 25.000 | -10.000 | LREF 19.2299 INCHES |
| (ADP225) | 0A21B 81SC7H23M4FS V107E23VTR6 | 5.000 | -15.000 | 25.000 | -10.000 | BREF 37.5538 INCHES |
| | | | | | | XREF 43.5574 INCHES |
| | | | | | | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |



SIDESLIP ANGLE, β , DEGREES

FIGURE 99 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 5

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[ADP216] 0A21B B1SC7H23H4F5 V107E23V7R6

[ADP221] 0A21B B1SC7H23H4F5 V107E23V7R5

[ADP226] 0A21B B1SC7H23H4F5 V107E23V7R6

ALPHA RUDDER SPDRK BOFLAP

10.000 0.000 25.000 -18.000

10.000 -7.500 25.000 -18.000

10.000 -15.000 25.000 -18.000

REFERENCE INFORMATION

SREF 4.4119 SCAL 1.0000

LSREF 19.2000 INCL 1.0000

BSREF 37.5000 INCL 1.0000

XREF 43.5000 INCL 1.0000

YREF 16.5000 INCL 1.0000

ZREF 16.5000 INCL 1.0000

SCALE 1.0000

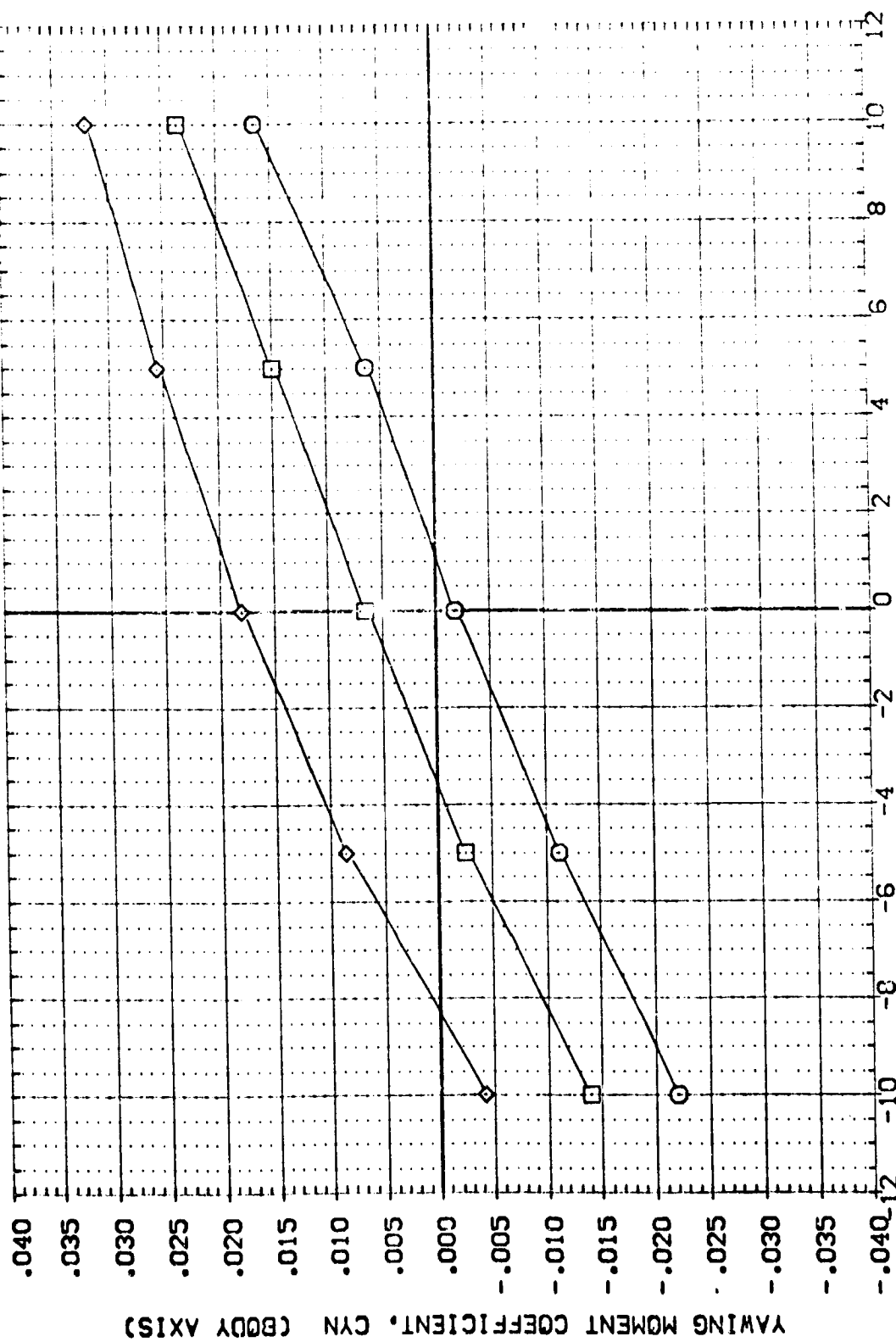


FIGURE 100 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 10

CAJMACH = .16

DATA SET "1000L" CONFIGURATION DESCRIPTION

| CONFIGURATION | DESCRIPTION |
|---------------|--------------------------|
| CA21B | B19C7H23V4F5 V107E23V7R8 |
| CA21B | B19C7H23V4F5 V107E23V7R8 |
| CA21B | B19C7H23V4F5 V107E23V7R8 |

ALPHA

| ALPHA | RUDDER | SPOBRK | BOFLAP |
|--------|---------|--------|---------|
| 10.000 | .000 | 25.000 | -18.000 |
| 10.000 | -7.500 | 25.000 | -18.000 |
| 10.000 | -15.000 | 25.000 | -18.000 |

REFERENCE INFORMATION

| REFERENCE INFORMATION | SCALE |
|-----------------------|---------|
| SREF | 4.4119 |
| LRREF | 19.2000 |
| BRREF | 37.5000 |
| VMREF | 43.5000 |
| VMREF | 16.0000 |
| VMREF | 16.2000 |
| SCALE | .0005 |

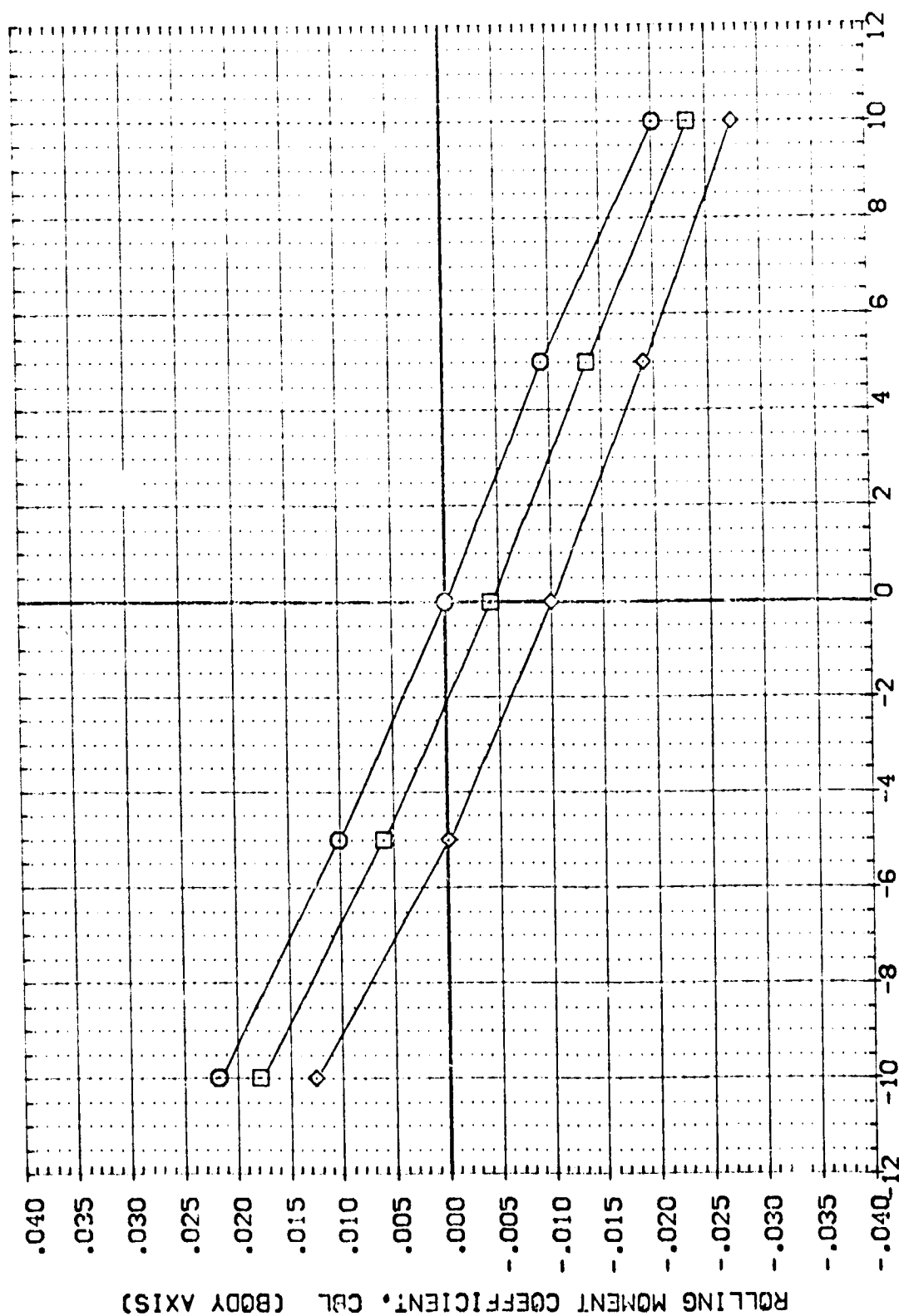
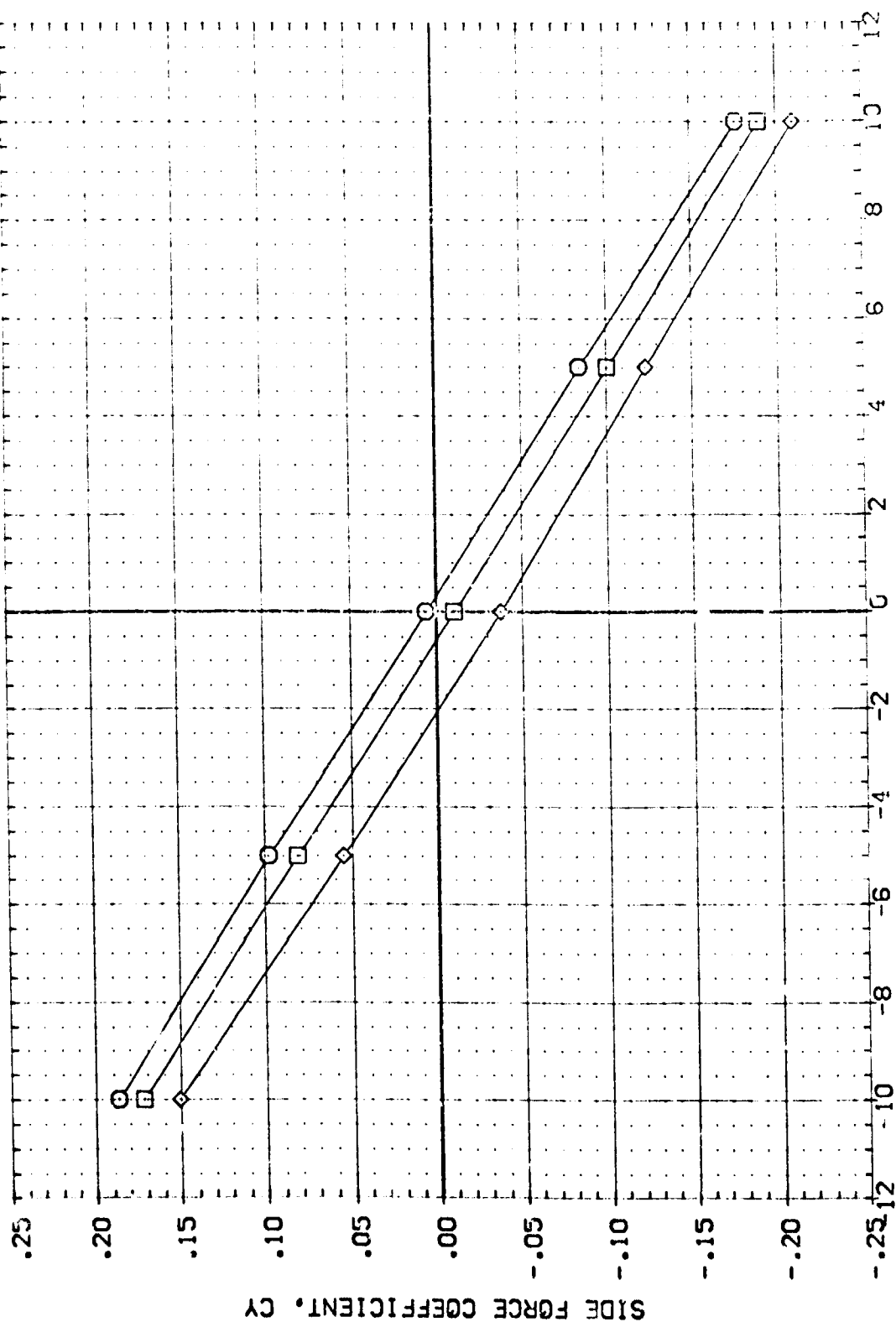


FIGURE 100 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 10

(A)MACH = .16

| ALPHA | RUDDER | SPORRY | SOFLAP | REFERENCE | SO.FT. |
|--------|---------|--------|---------|-----------|---------|
| 10.000 | 0.000 | 25.000 | -18.000 | 4.411 | 120.000 |
| 10.000 | -7.000 | 23.000 | -13.000 | 19.000 | 120.000 |
| 10.000 | -15.000 | 23.000 | -13.000 | 23.000 | 120.000 |
| | | | | 16.000 | 120.000 |
| | | | | 16.000 | 120.000 |

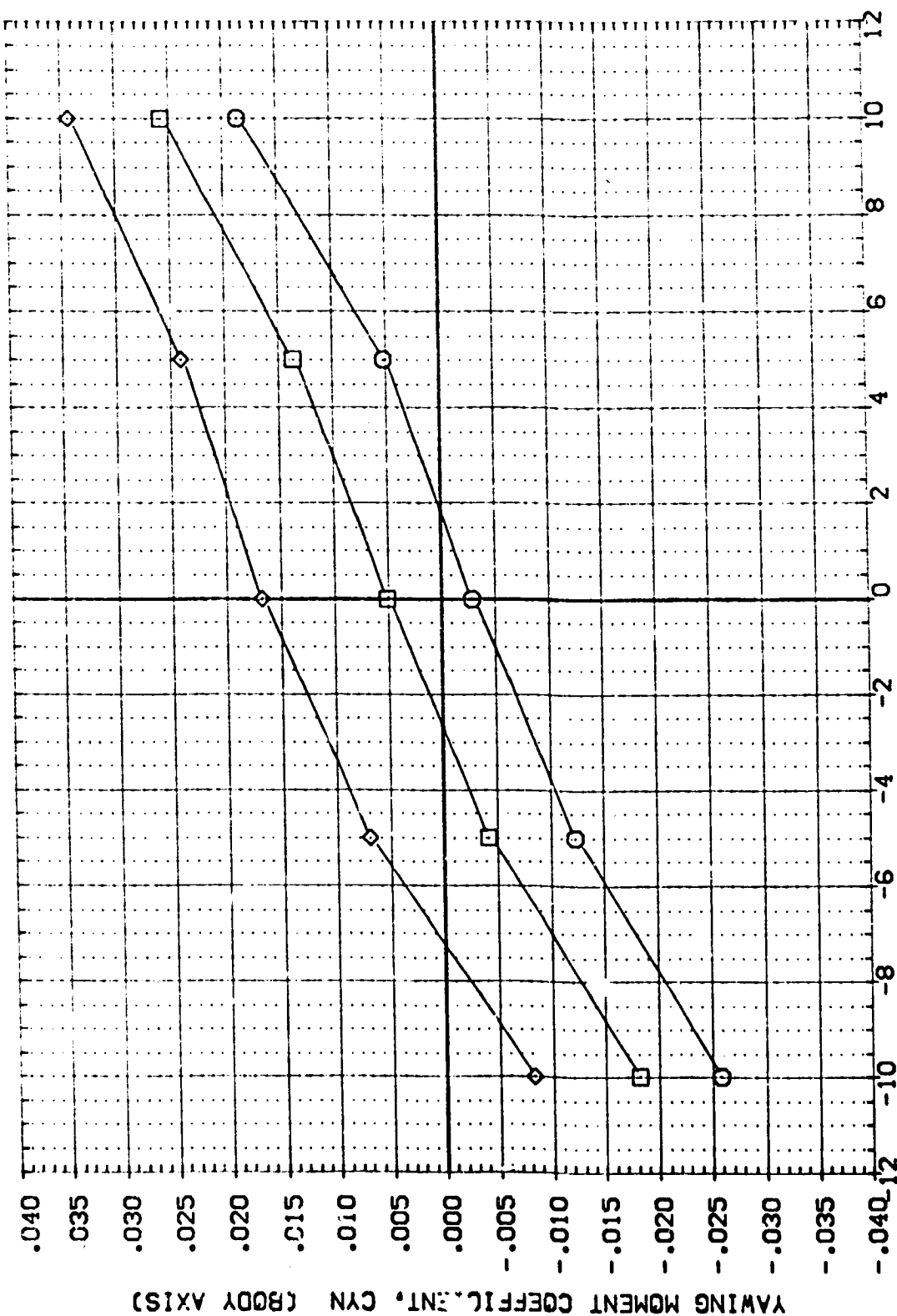


SIDSLIP ANGLE. BETA. DEGREES

FIGURE 100 CONFIG 1398 RUDDER EFFECTIVENESS ALPHA = 10

$$C_A MACH = .16$$

| | | | | | | |
|-----------------|--------------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRBK | SOFLAP | REFERENCE INFORMATION |
| (ADP217) | CA213 0107H-23M4FS VI07E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | SREF 4.4119 SO.FT. |
| (ADP222) | CA213 0107H-23M4FS VI07E23V7R6 | 15.000 | -7.500 | 25.000 | -18.000 | LREF 19.2263 INCHES |
| (ADP227) | CA213 0107H-23M4FS VI07E23V7R6 | 15.000 | -15.000 | 25.000 | -18.000 | DREF 37.9309 INCHES |
| | | | | | | YREF 43.5574 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |



SIDSLIP ANGLE, BETA, DEGREES

FIGURE 101 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 15

(MACH = .16

| | | | | | | |
|-----------------|--------------------------------|--------|---------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | BOFLAP | REFERENCE INFORMATION |
| [ADP217] | 0A21B B19C7H23M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| [ADP222] | 0A21B B19C7H23M4F5 V107E23V7R6 | 5.000 | -7.500 | 25.000 | -18.000 | LREF 19.2323 INCHES |
| [ADP227] | 0A21B B19C7H23M4F5 V107E23V7R6 | 5.000 | -15.000 | 25.000 | -18.000 | BREF 37.6523 INCHES |
| | | | | | | XREF 43.5974 INCHES |
| | | | | | | YREF 10.000 INCHES |
| | | | | | | ZREF 16.2500 INCHES |
| | | | | | | SCALE .0405 |

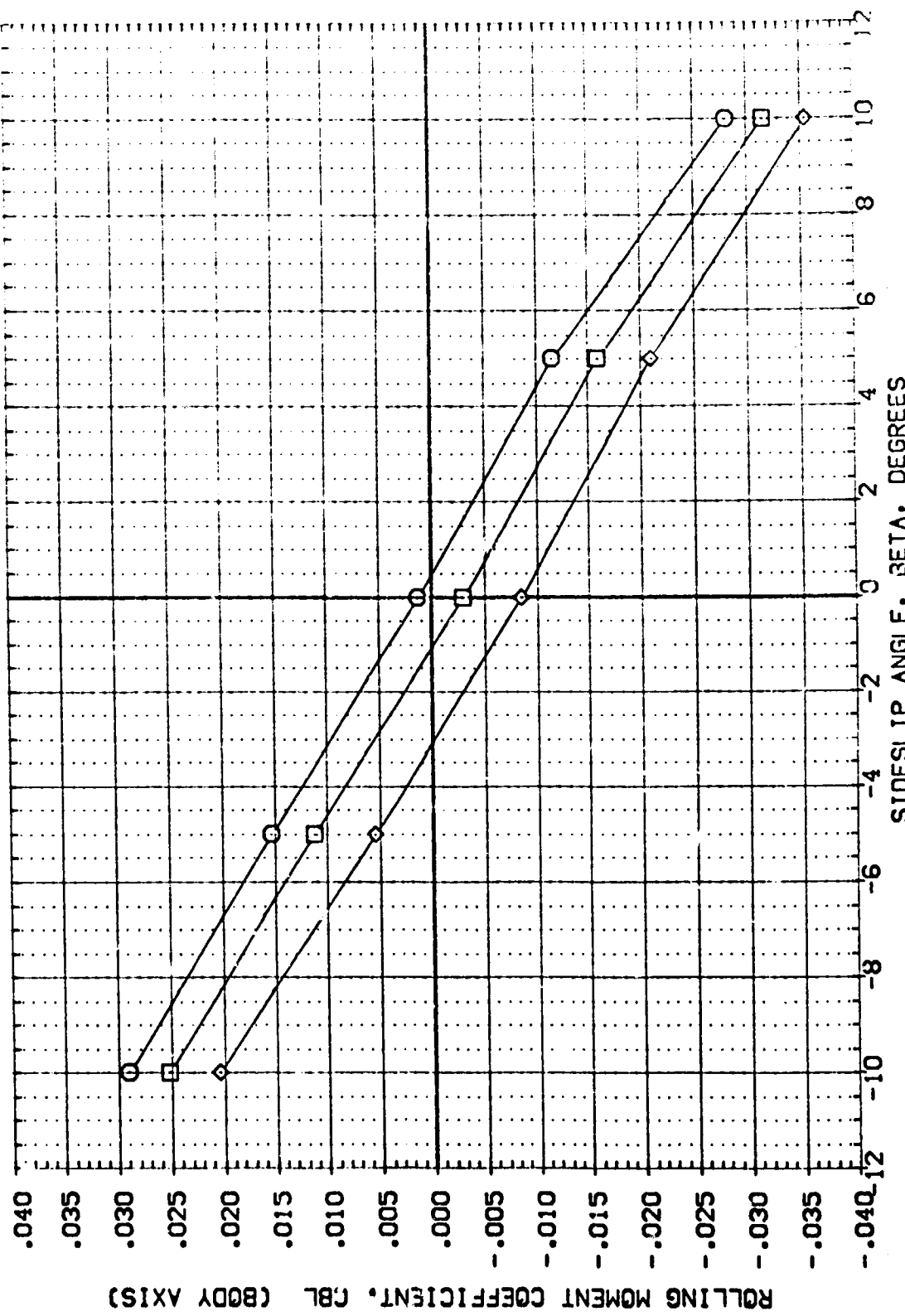


FIGURE 101 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 15

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[ADP217] QAZ18 B1SC7H23M4F5 V107E23V7R6

[ADP222] QAZ18 B1SC7H23M4F5 V107E23V7R6

[ADP227] QAZ18 B1SC7H23M4F5 V107E23V7R6

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2799 INCHES

BREF 37.9359 INCHES

XREF 43.5574 INCHES

YREF .0070 INCHES

ZREF 16.2000 INCHES

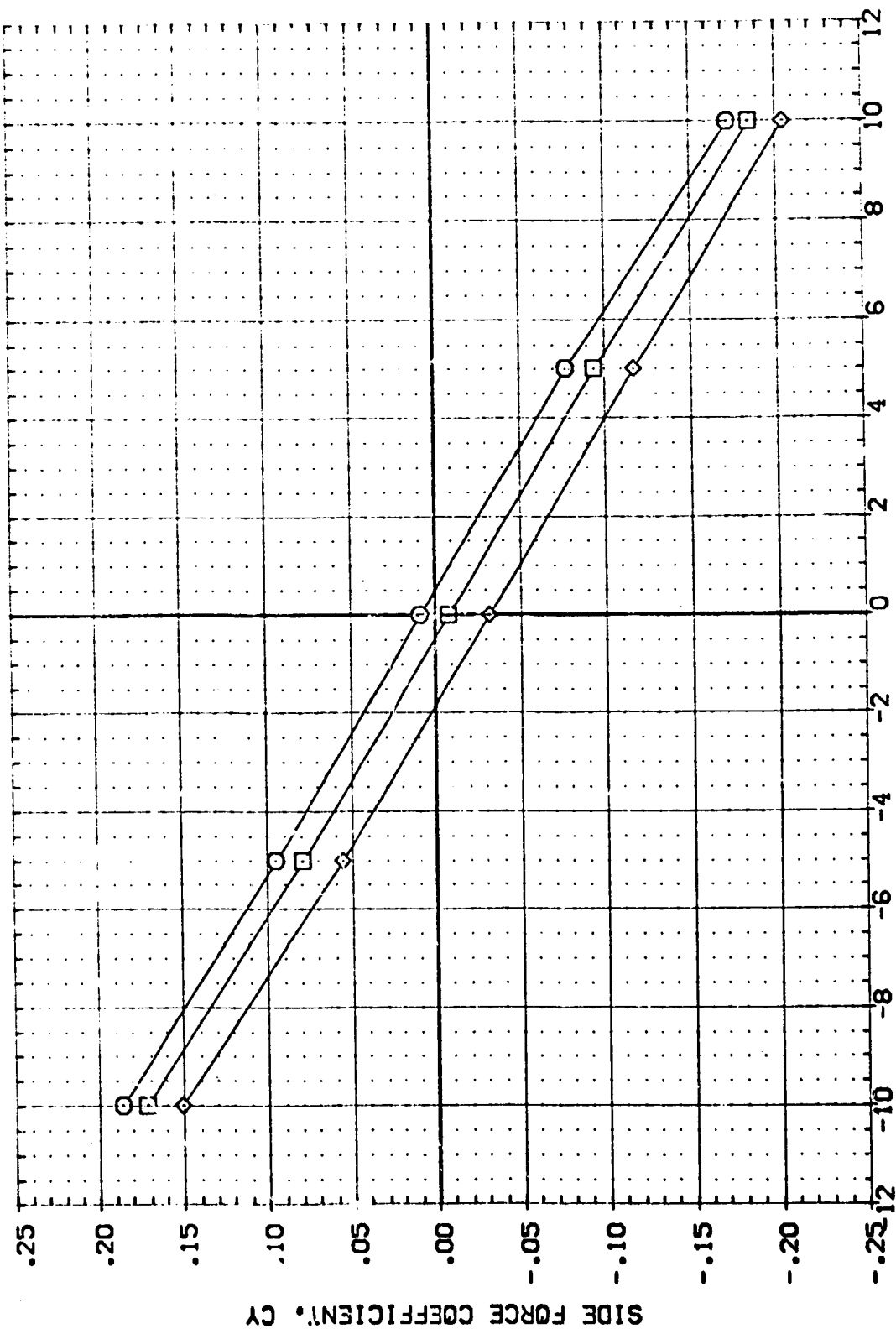
SCALE .0105

ALPHA RUDDER SPDBRK BOFLAP

15.000 0.000 25.000 -18.000

15.000 -7.500 25.000 -18.000

15.000 -15.000 25.000 -15.000



SIDESLIP ANGLE, BETA, DEGREES

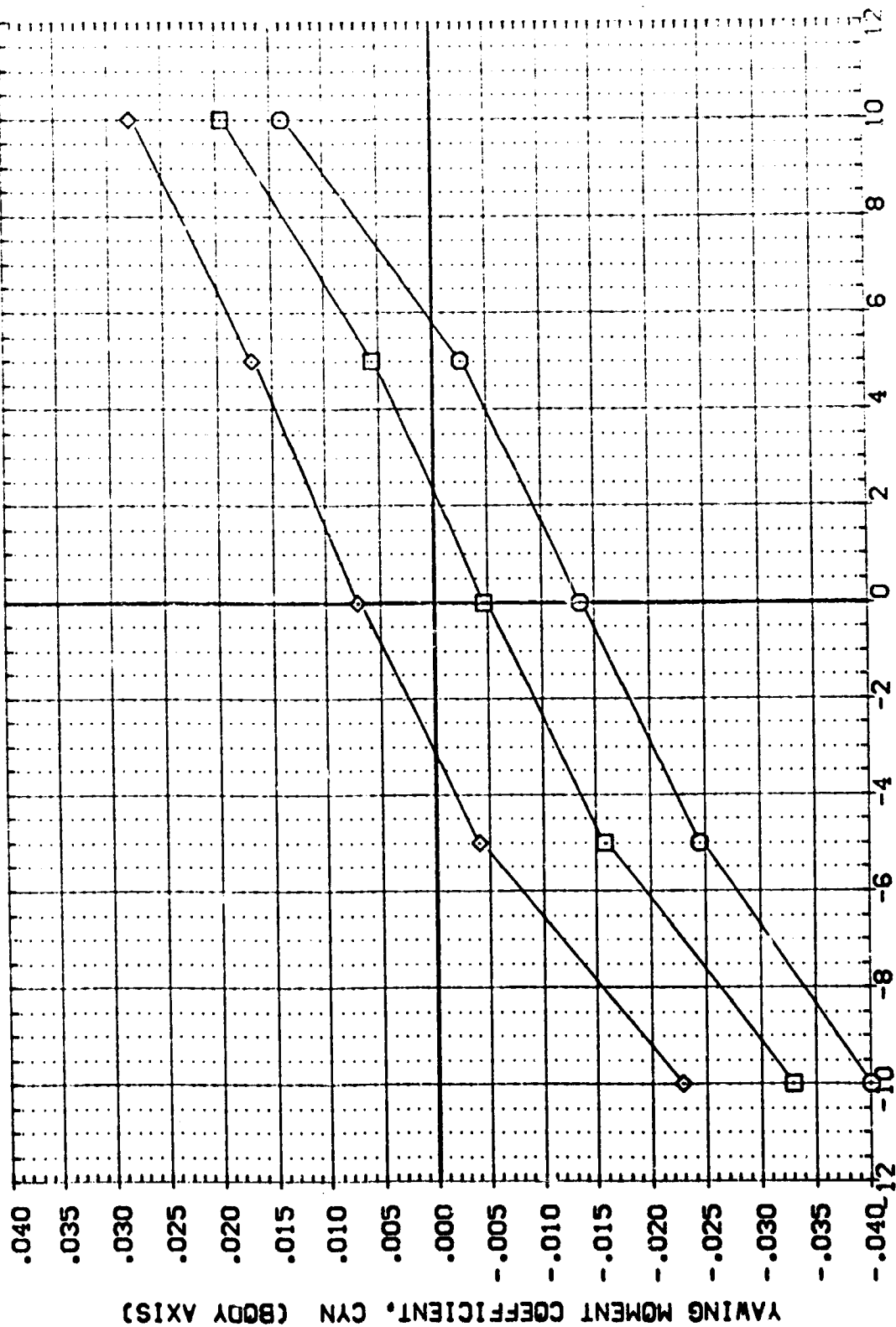
FIGURE 101 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 15

(A)MACH = .16

DATA SET SYMBOL: 0A218 815C7H234HFS V107E23V7R6
 0A218 815C7H234HFS V107E23V7R6
 0A218 815C7H234HFS V107E23V7R6

ALPHA RUDDER SPDBRK BOFLAP
 20.000 .000 25.000 -10.000
 20.000 -7.500 25.000 -19.000
 20.000 -15.000 25.000 -19.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.7279 INCHES
 BREF 37.5339 INCHES
 VREF 43.5534 INCHES
 WREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0105



SUESLIP ANGLE, BETA, DEGREES

FIGURE 102 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 20

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ADP218) 0A218 B1SC74234F5 V107E23V7R6

(ADP223) C218 B1SC74234F5 V107E23V7R6

(ADP228) 0A218 B1SC74234F5 V107E23V7R6

ALPHA RUDDER SPOBRK BOFLAP

20.000 .000 25.000 -18.000

20.000 -7.500 25.000 -18.000

20.000 -15.000 25.000 -18.000

REFERENCE INFORMATION

SREF 4.4119 50. FT.

LREF 19.2293 INCHES

BREF 37.5359 INCHES

XREF 43.5574 INCHES

YREF .0000 INCHES

ZREF 16.2000 INCHES

SCALE .0405 SCALE

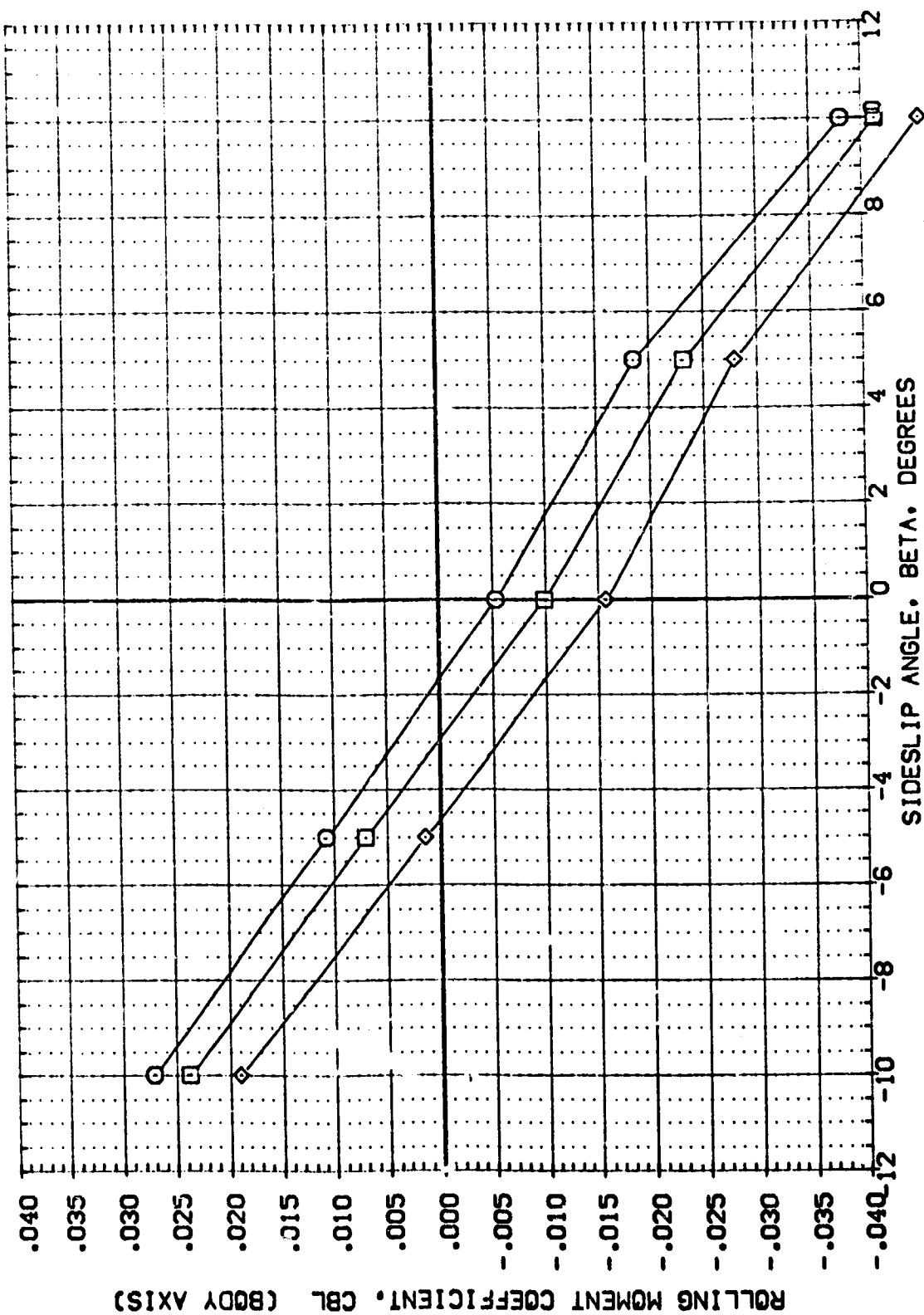
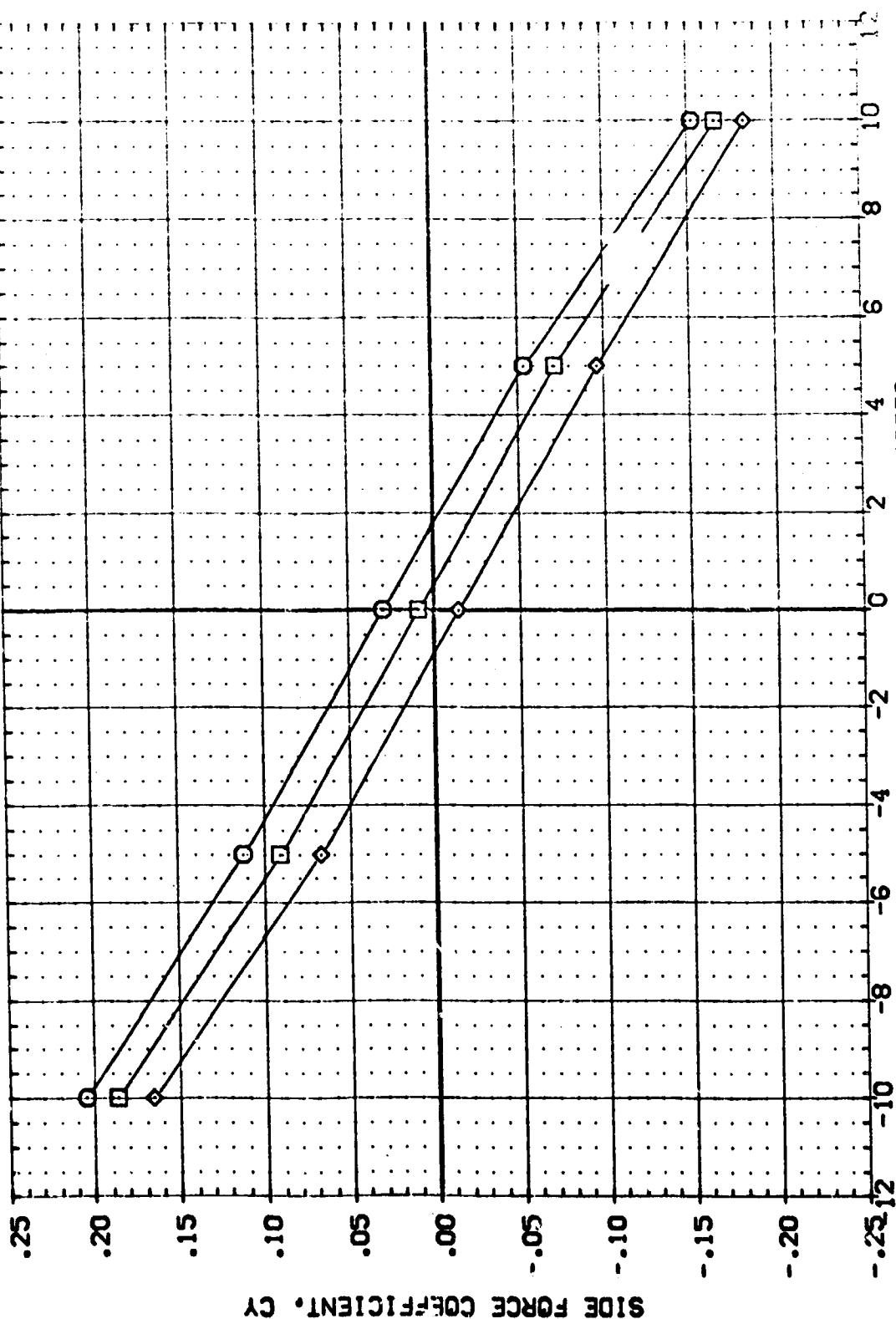


FIGURE 102 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 20

(A)MACH = .16

| ALPHA | RUDDER | SPDRK | BOFLAP | REFERENCE | INFORMATION | SGT |
|---------|---------|---------|--------|-----------|-------------|--------|
| 000.000 | 000.000 | 000.000 | 18.000 | STEF | 4.419 | 55.000 |
| 000.000 | 000.000 | 000.000 | 18.000 | JBREF | 17.230 | 55.000 |
| 000.000 | -7.500 | 000.000 | 18.000 | YREF | 37.300 | 55.000 |
| 000.000 | -15.000 | 000.000 | 18.000 | YKOP | 43.500 | 55.000 |
| 000.000 | | 000.000 | 18.000 | YKOP | 15.200 | 55.000 |
| 000.000 | | 000.000 | 18.000 | SCALE | 15.000 | 55.000 |



SIDESLIP ANGLE, BETA, DEGREES

FIGURE 102 CONFIG 139B RUDDER EFFECTIVENESS ALPHA = 20

$$[A]_{MACH} = .16$$

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | BETA | DELTA | SPDRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|-------------------------------|---------|-------|--------|---------|-----------------------|
| (H0219) | QA218 B1SC7H234FS V107E23VTR6 | -10.000 | 7.500 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (H0220) | QA218 B1SC7H234FS V107E23VTR6 | -5.000 | 7.500 | 25.000 | -18.000 | LREF 19.2259 INCHES |
| (H0221) | QA218 B1SC7H234FS V107E23VTR6 | .000 | 7.500 | 25.000 | -18.000 | BREF 37.5359 INCHES |
| (H0222) | QA218 B1SC7H234FS V107E23VTR6 | 5.000 | 7.500 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (H0223) | QA218 B1SC7H234FS V107E23VTR6 | 10.000 | 7.500 | 25.000 | -18.000 | YREF 16.2300 INCHES |
| | | | | | | ZREF 16.2300 INCHES |
| | | | | | | SCALE .0005 |

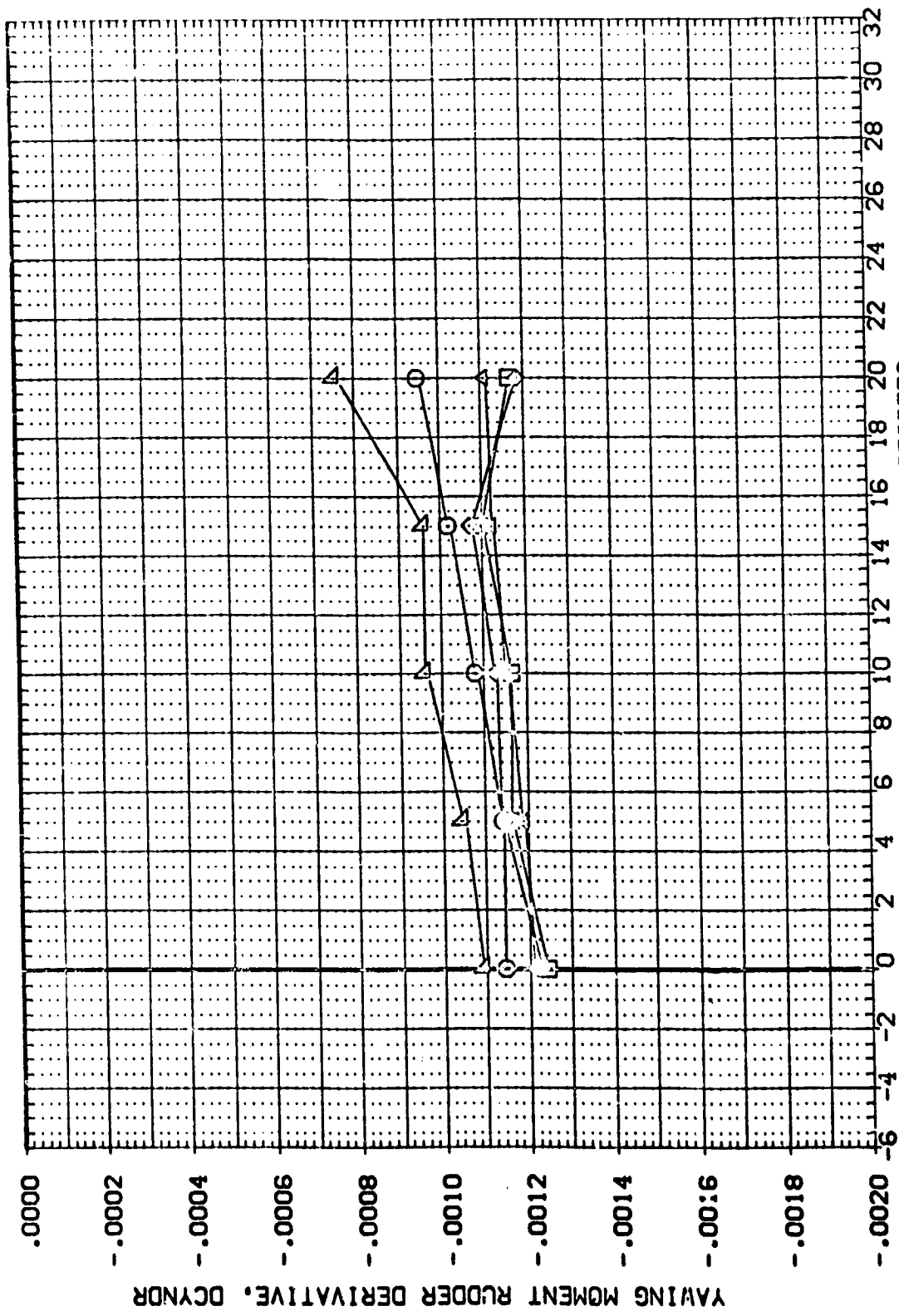


FIGURE 103 CONFIG 139B LAT.-DIR. DERIVATIVES RUDDER EFFECTIVENESS

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

| | | | | |
|----------|--------------------|-------|---------|--------|
| (MOP219) | 0A21B B1SC7H23M4F5 | SREF | 4.4119 | SO.FT. |
| (MOP220) | 0A21B B1SC7H23M4F5 | LREF | 13.2259 | INCHES |
| (MOP221) | 0A21B B1SC7H23M4F5 | BREF | 37.5359 | INCHES |
| (MOP222) | 0A21B B1SC7H23M4F5 | XRRP | 43.5974 | INCHES |
| (MOP223) | 0A21B B1SC7H23M4F5 | YRRP | 16.0000 | INCHES |
| | | ZRRP | 16.2000 | INCHES |
| | | SCALE | .0405 | SCALE |

BETA DELRLO SPDRBK BOFLAP

| | | | |
|---------|-------|--------|---------|
| -10.000 | 7.500 | 25.000 | -18.000 |
| -5.000 | 7.500 | 25.000 | -18.000 |
| .000 | 7.500 | 25.000 | -18.000 |
| 5.000 | 7.500 | 25.000 | -18.000 |
| 10.000 | 7.500 | 25.000 | -18.000 |

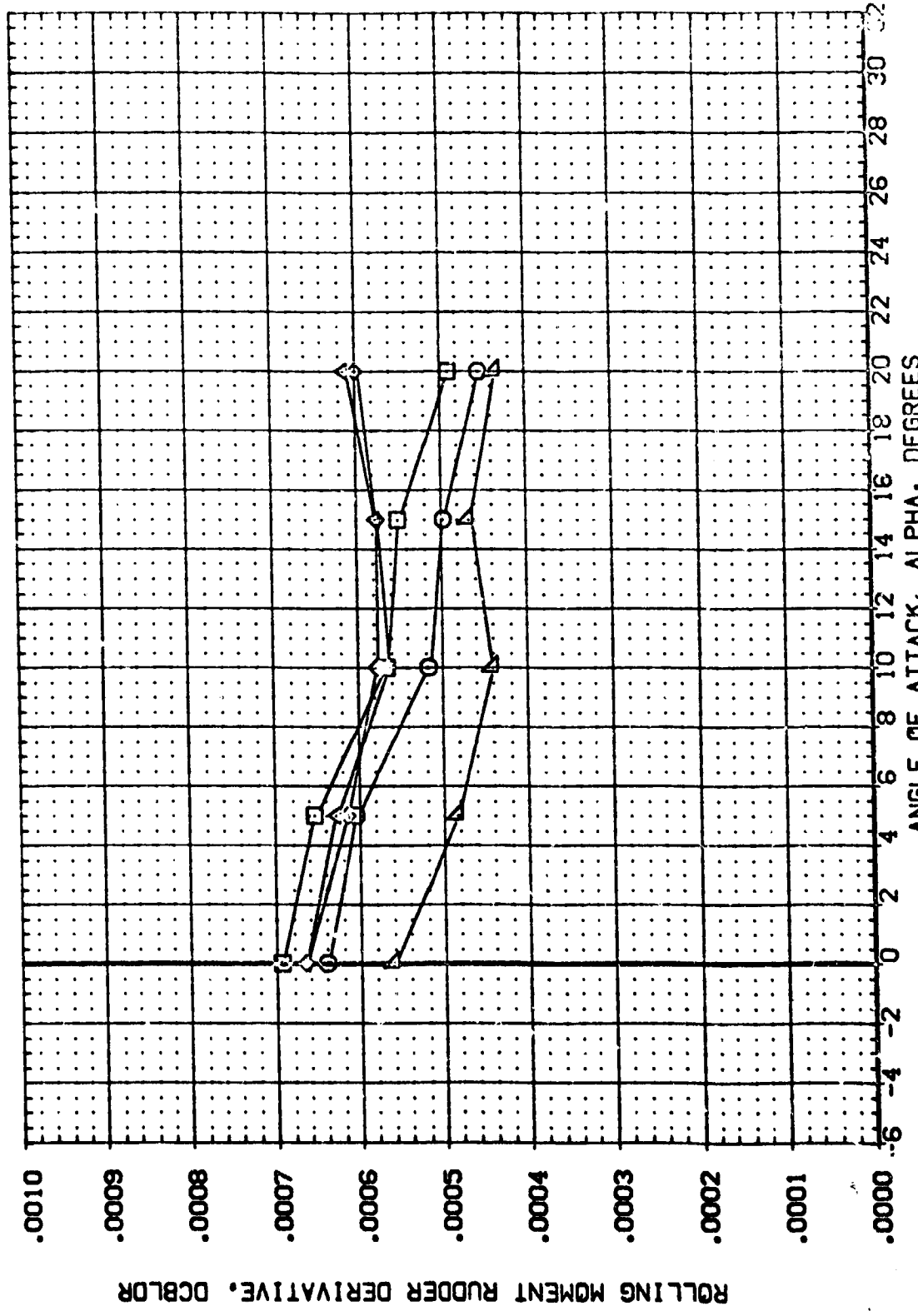


FIGURE 103 CONFIG 139B LAT.-DIR. DERIVATIVES RUDDER EFFECTIVENESS

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | BETA | DEL RUD | SPDRBK | REFLAP | REFERENCE INFORMATION |
|-----------------|-------------------------------|---------|---------|--------|---------|-----------------------|
| (MOP219) | QA21B B19C7H234FS V107E23V7R6 | -10.000 | 7.500 | 25.000 | -18.000 | SREF 4.4119 50.FT. |
| (MOP220) | QA21B B19C7H234FS V107E23V7R6 | -5.000 | 7.500 | 25.000 | -18.000 | LREF 19.2259 INCHES |
| (MOP221) | QA21B B19C7H234FS V107E23V7R6 | 5.000 | 7.500 | 25.000 | -18.000 | BREF 37.5259 INCHES |
| (MOP222) | QA21B B19C7H234FS V107E23V7R6 | 10.000 | 7.500 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| (MOP223) | QA21B B19C7H234FS V107E23V7R6 | | | | | YREF 16.2000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0105 |

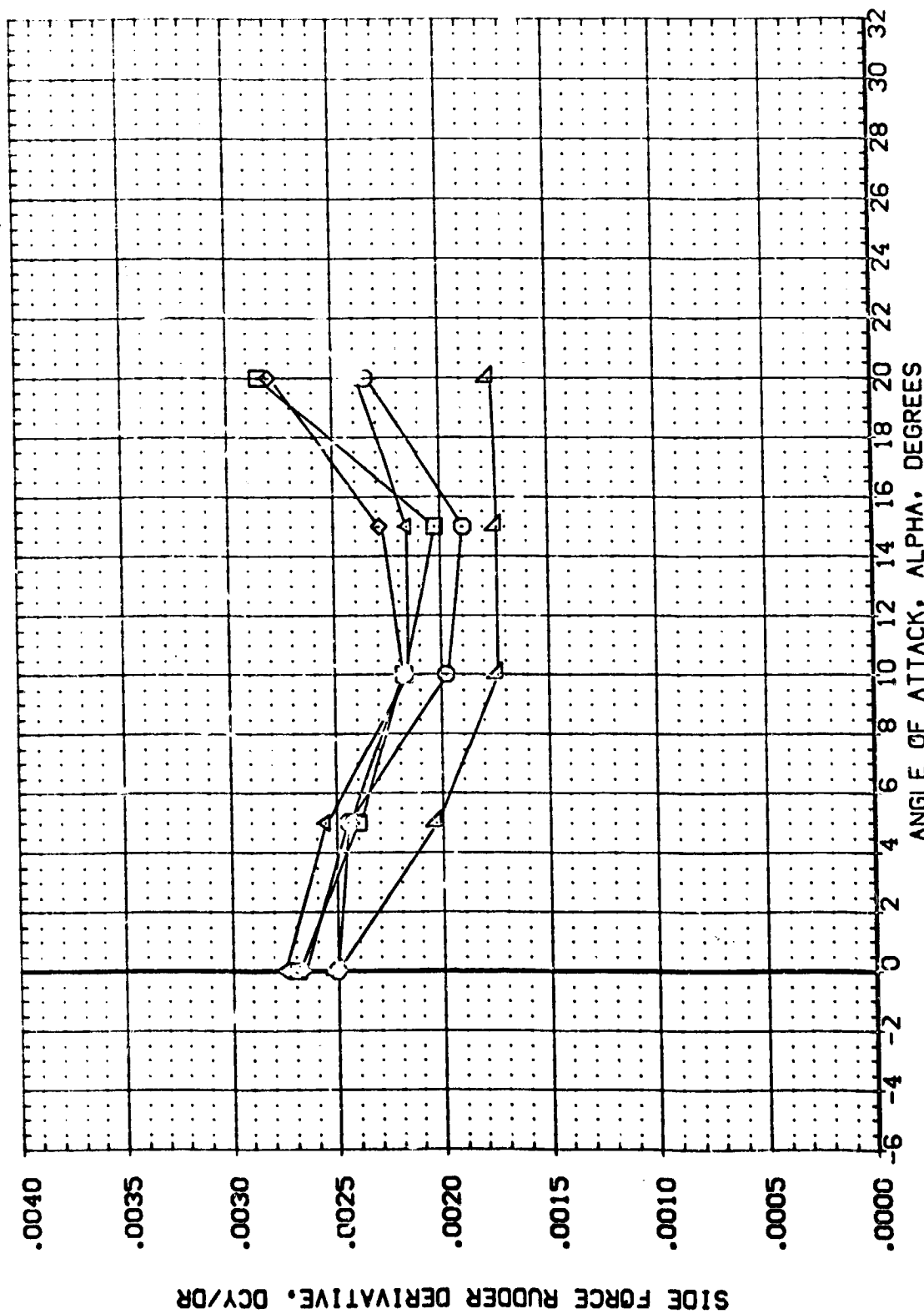


FIGURE 103 CONFIG 139B LAT.-DIR. DERIVATIVES RUDDER EFFECTIVENESS

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADP182) 0A218 B1'27 MAFS V107E23V7R6
 (ADP183) 0A218 B1'27 MAFS V107E23V7R6

BETA .000
 .5.000

RUDDER .000
 .000

SPDRBK .000
 .000

BOFLAP -18.000
 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2263 INCHES
 BREF 37.6559 INCHES
 XMAP 43.1577 INCHES
 YMAP .0000 INCHES
 ZMAP 16.2000 INCHES
 SCALE .0405 SCALE

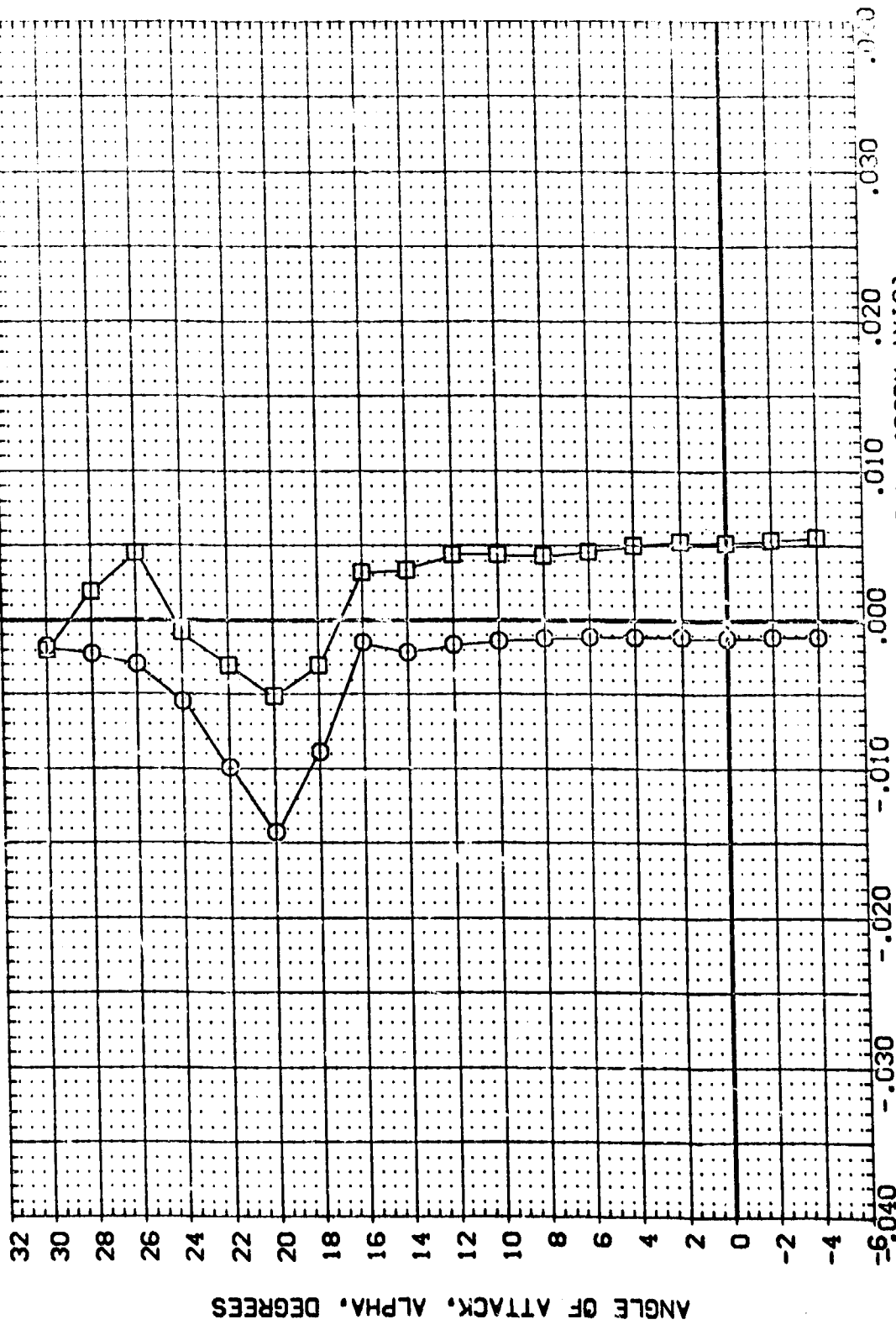


FIGURE 104 CONFIG 1398 LAT.-DIR. CHAR. VERSUS ALPHA (DELTA SPDRBK = 0 DEG.)

(A)MACH = .26

DATA SET SYMBOL: (ADP182) (ADP183)

CONFIGURATION DESCRIPTION: 0A218 819C7 M4FS V107E23V7R6 0A218 819C7 M4FS V107E23V7R6

BETA: .000 5.000

RUDER: .000 .000

SPDBRK: .000 .000

BOFLAP: -18.000 -18.000

REFERENCE INFORMATION:

| | | |
|-------|---------|--------|
| SREF | 4.4118 | SQ.FT. |
| LREF | 19.2239 | INCHES |
| BREF | 37.9259 | INCHES |
| XREF | 43.5974 | INCHES |
| YREF | .0300 | INCHES |
| ZREF | 16.2000 | INCHES |
| SCALE | .0405 | INCHES |

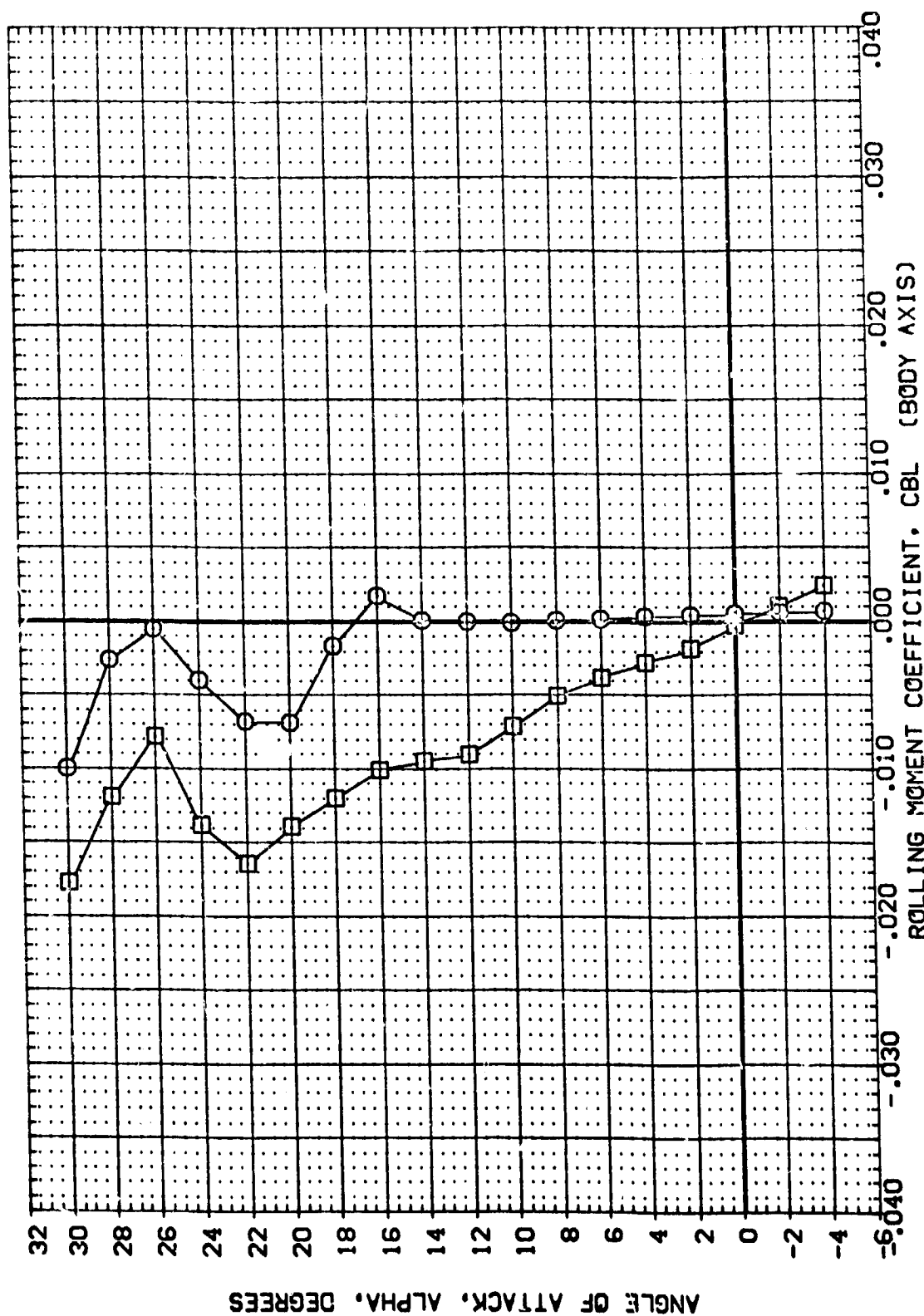


FIGURE 104 CONFIG 1398 LAT.-DIR. CHAR. VERSUS ALPHA (DELTA SPDBRK = 0 DEG.)

| | | | | | | | | | | | |
|-----------------|-------|-------|------|---------------------------|-------|---------|---------|-----------------------|---------|---------|--|
| DATA SET SYMBOL | | | | CONFIGURATION DESCRIPTION | | | | REFERENCE INFORMATION | | | |
| (ADP182) | 0A218 | BISC7 | MAPS | V107E23V7R6 | SREF | 4.4119 | SO.F.T. | SREF | 4.4119 | SO.F.T. | |
| (ADP183) | 0A218 | BISC7 | MAPS | V107E23V7R6 | LREF | 19.2293 | INCHES | LREF | 19.2293 | INCHES | |
| | | | | | BCGF | 37.9359 | INCHES | BCGF | 37.9359 | INCHES | |
| | | | | | XREF | 43.5974 | INCHES | XREF | 43.5974 | INCHES | |
| | | | | | YMRP | .0000 | INCHES | YMRP | .0000 | INCHES | |
| | | | | | ZMRP | 16.2000 | INCHES | ZMRP | 16.2000 | INCHES | |
| | | | | | SCALE | .0405 | SCALE | SCALE | .0405 | SCALE | |

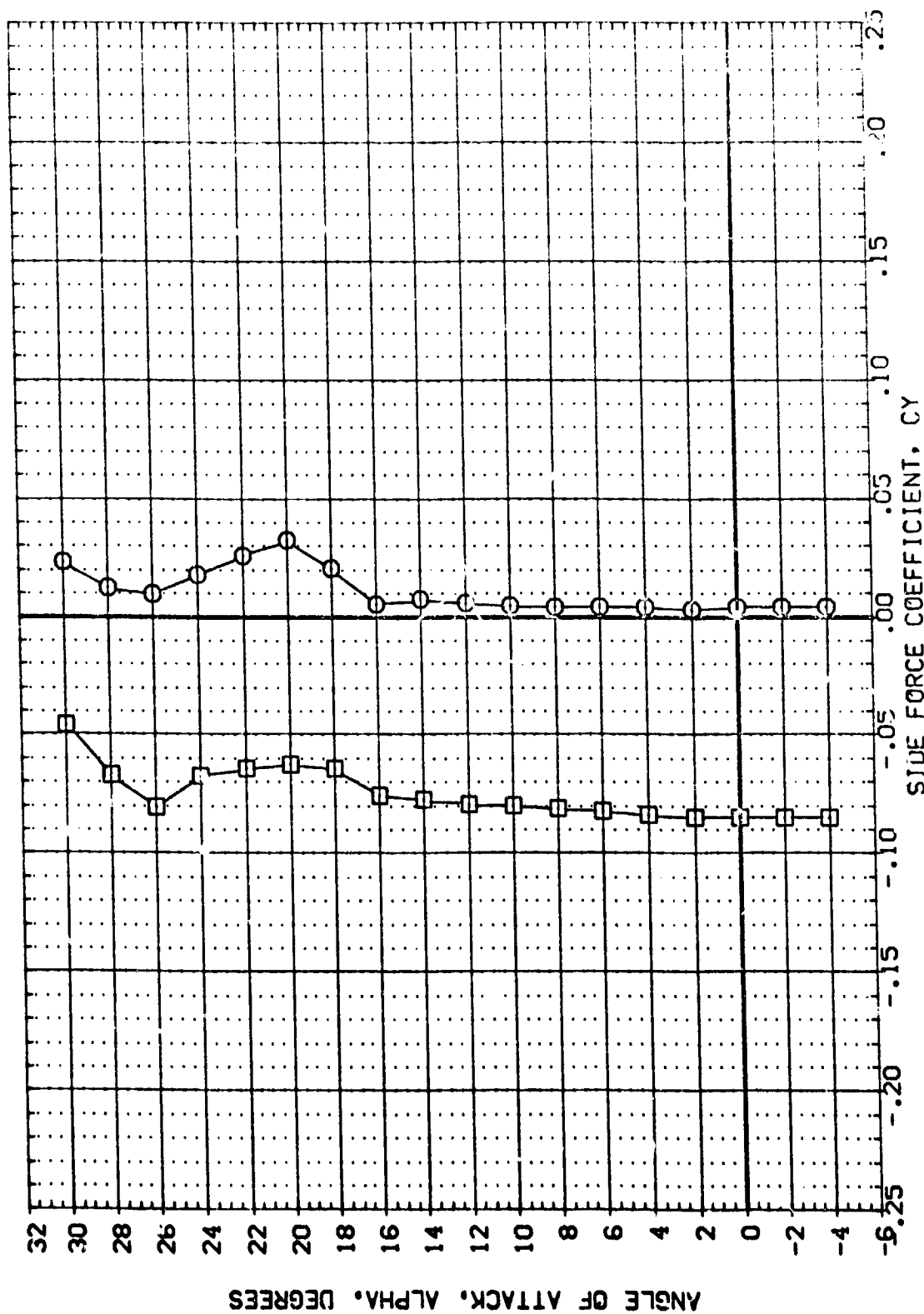


FIGURE 104 CONFIG 139B LAT.-DIR. CHAR. VERSUS ALPHA (DELTA SPDBRK = 0 DEG.)

(A)MACH = .26

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|--------|---------|---------|-----------------------|
| (ADP177) | 0A21B B19C7 MAFS V107E23V7R6 | .000 | .000 | .000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP178) | 0A21B B19C7 MAFS V107E23V7R6 | 5.000 | .000 | .000 | -18.000 | LREF 19.2298 INCHES |
| (ADP179) | 0A21B B19C7 MAFS V107E23V7R6 | 10.000 | .000 | .000 | -18.000 | BREF 37.9359 INCHES |
| (ADP180) | 0A21B B19C7 MAFS V107E23V7R6 | 15.000 | .000 | .000 | -18.000 | XMRP 43.5574 INCHES |
| (ADP181) | 0A21B B19C7 MAFS V107E23V7R6 | 20.000 | .000 | .000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

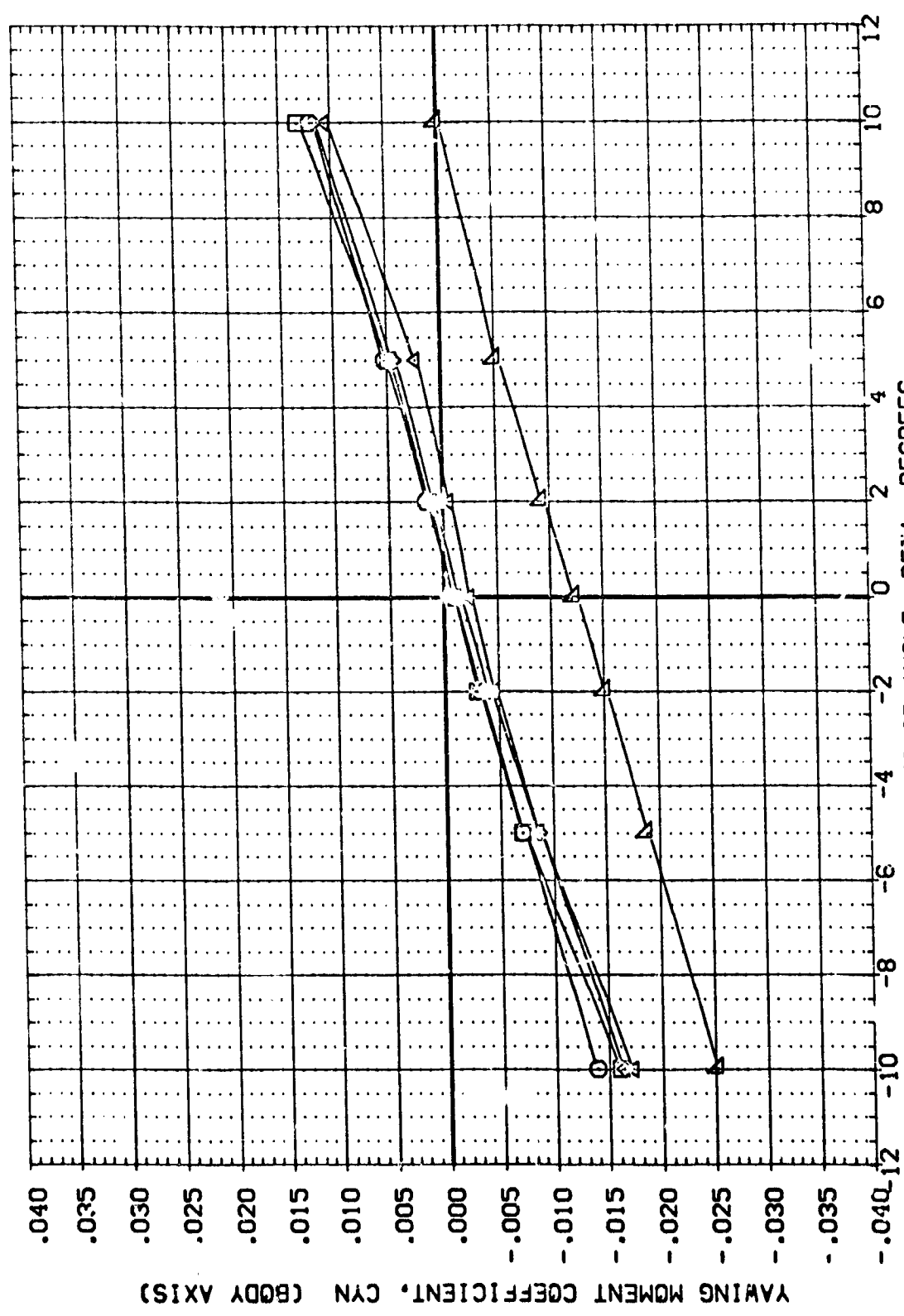


FIGURE 105 CONFIG 139B LAT.-DIR. CHARACTERISTICS VERSUS BETA

(A)MACH = .26

| | | | | | |
|-----------------|-------------|---------------------------|-------------|-----------------------|---------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (ADP177) | 0A21B B19C7 | M4F5 | V107E23V7R6 | SREF | 4.4119 |
| (ADP178) | 0A21B B19C7 | M4F5 | V107E23V7R6 | LREF | 19.2289 |
| (ADP179) | 0A21B B19C7 | M4F5 | V107E23V7R6 | BREF | 37.9359 |
| (ADP180) | 0A21B B19C7 | M4F5 | V107E23V7R6 | YMRP | 43.5574 |
| (ADP181) | 0A21B B19C7 | M4F5 | V107E23V7R6 | ZMRP | 16.2000 |
| | | | | SCALE | .0405 |

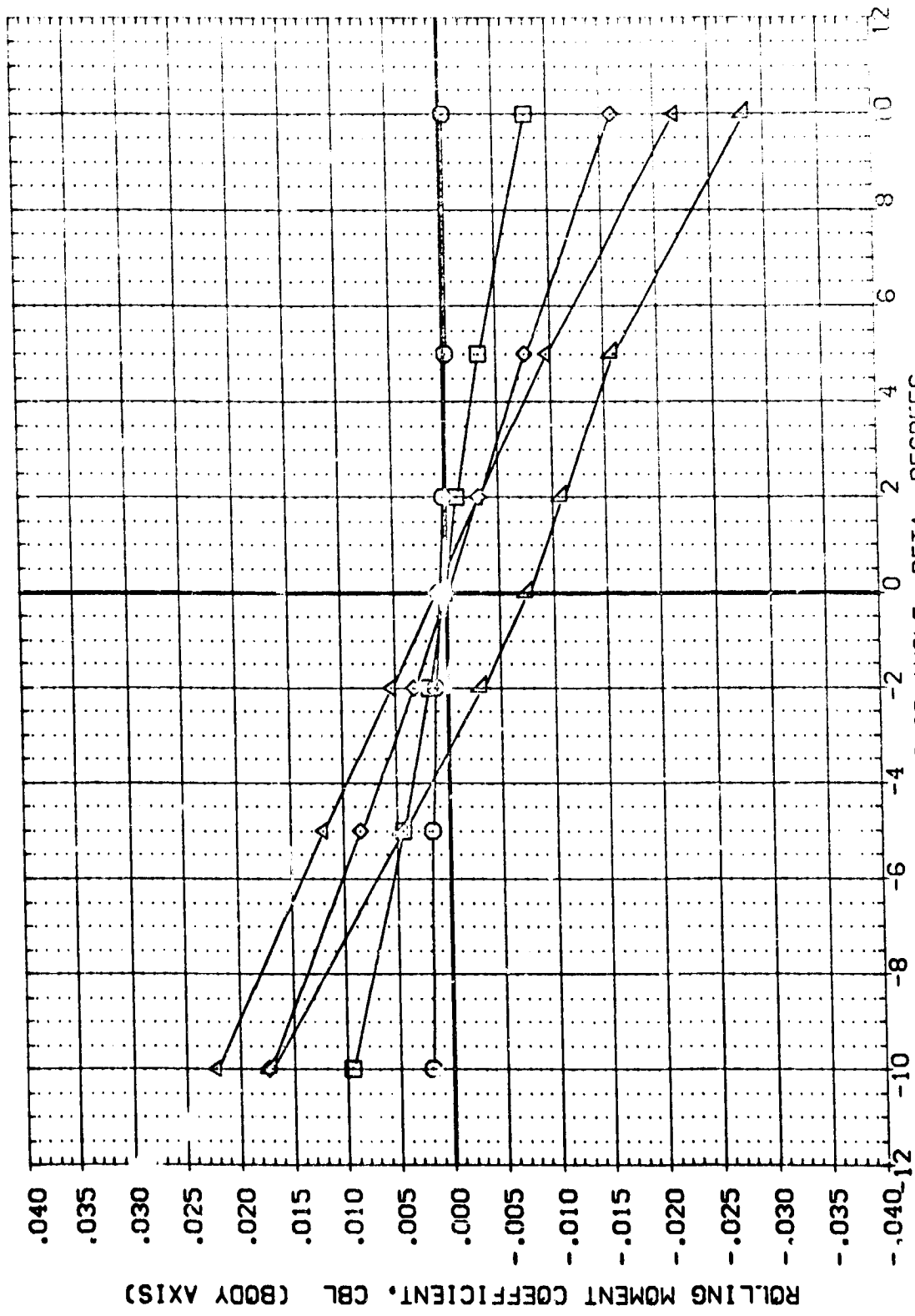


FIGURE 105 CONFIG 139B LAT.-DIR. CHARACTERISTICS VERSUS BETA

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|--------|-------|---------|-----------------------|
| (ADP177) | CA218 B1SC7 MAFS | .000 | .000 | .000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP178) | CA218 B1SC7 MAFS | 5.000 | .000 | .000 | -18.000 | UREF 19.2299 INCHES |
| (ADP179) | CA218 B1SC7 MAFS | 10.000 | .000 | .000 | -18.000 | BREF 37.9359 INCHES |
| (ALP180) | CA218 B1SC7 MAFS | 15.000 | .000 | .000 | -18.000 | XMRP 43.5974 INCHES |
| (ADP181) | CA218 B1SC7 MAFS | 20.000 | .000 | .000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

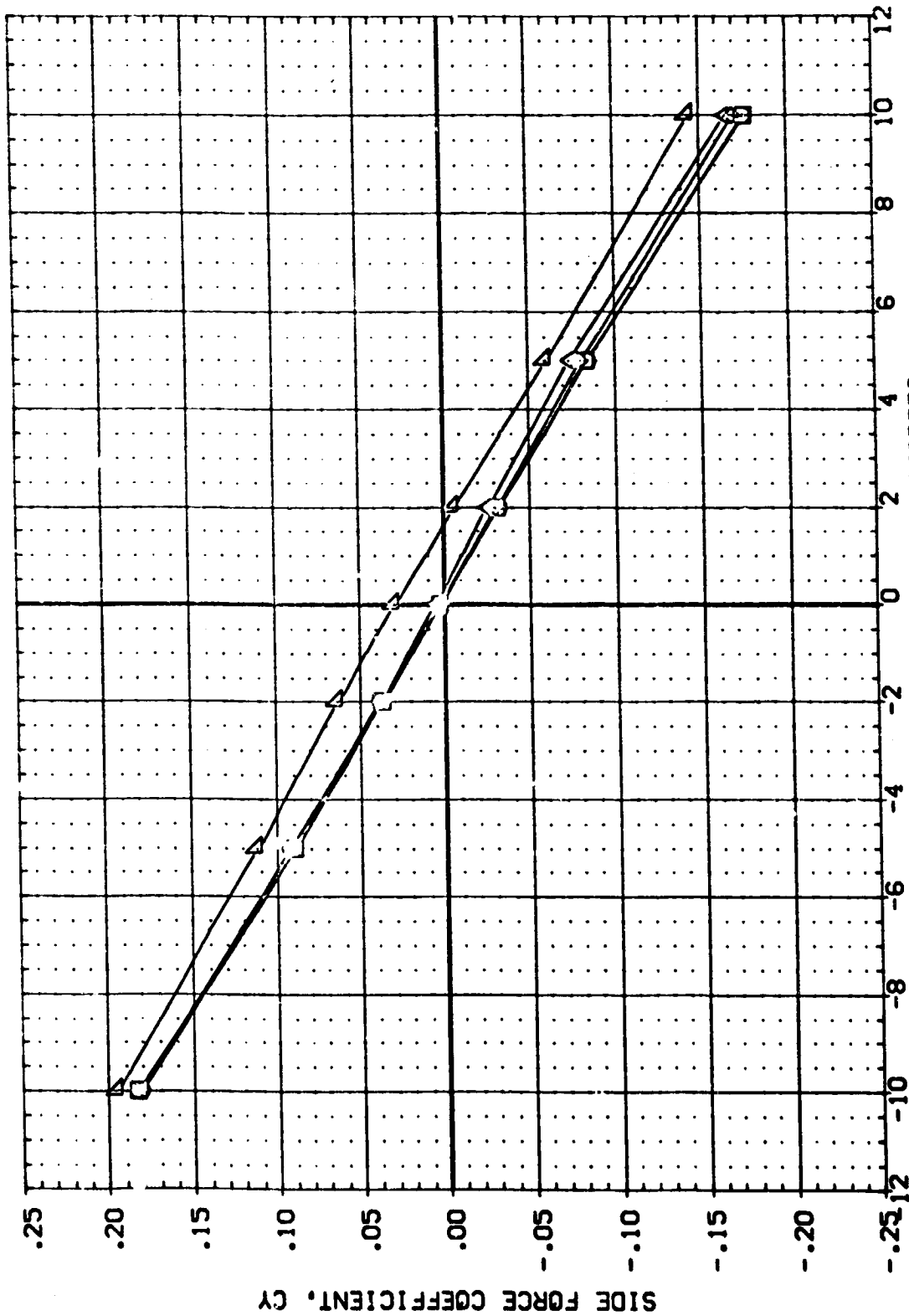


FIGURE 105 CONFIG 1398 LAT.-DIR. CHARACTERISTICS VERSUS BETA

(AJMACH = .26

(ADP177)

0A21B B19C7 M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | DATASET | | ALPHA | REFERENCE INFORMATION | | | |
|--------|------|-------------------|---------|--------|---------|-------------|------|---------|--------|--------|-----------------------|---------|--------|--------|
| | | BOFLAP | AILERON | RUDDER | -18.000 | ELEVON | .000 | DATASET | ADP177 | | ADP178 | SREF | LREF | SO.FT. |
| ○ | .260 | | | | .000 | VTLINC | .000 | ADP177 | .000 | ADP178 | 5.000 | 37.9359 | INCHES | |
| | | | | | .000 | SPDBKX | .000 | ADP181 | 10.000 | ADP180 | 15.000 | 43.5374 | INCHES | |
| | | | | | | | | | 20.000 | | | 0.000 | INCHES | |
| | | | | | | | | | | | | 16.2000 | INCHES | |
| | | | | | | | | | | | | SCALE | .0405 | |

ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CBLBET, PER DEGREE

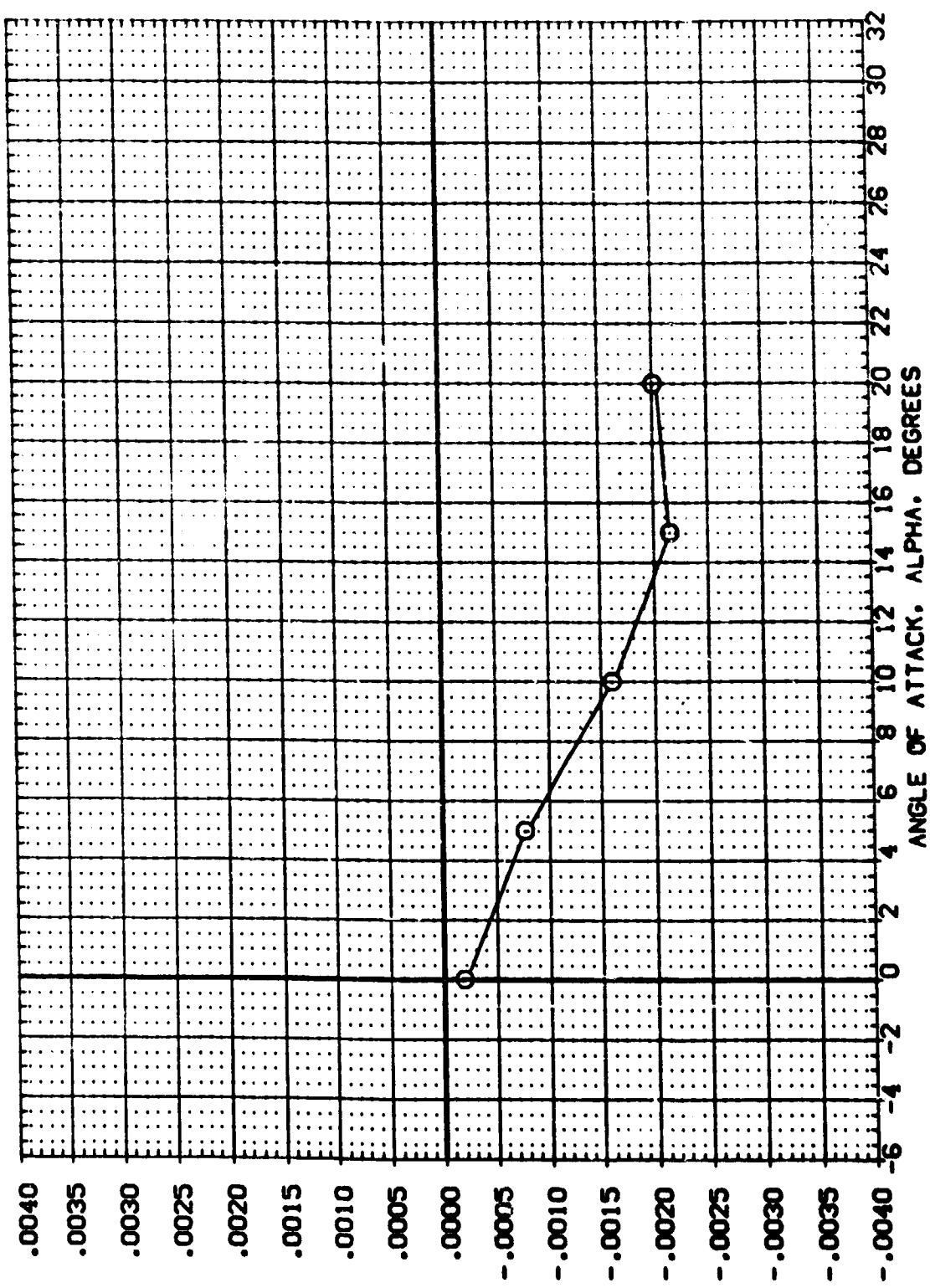


FIGURE 106 CONFIG 1398 LAT.-DIR. DERIVATIVES (DATA FROM BETA SWEEPS)

(ADP177)

0A21B B19C7 M4F5 W107E23V7R6

| | | | | | | | | | | |
|--------|------|---------|-------------------|------|---------|-------------|---------|--------|-------|-----------------------|
| SYMBOL | WMOH | BOFLAP | PARAMETRIC VALUES | .000 | DATASET | DATA SOURCE | DATASET | ALPHA | SREF | REFERENCE INFORMATION |
| O | .260 | AILINON | -18.000 | .000 | ADP177 | ALPHA | ADP178 | 5.000 | LREF | 50. FT. |
| | | RUDDER | .000 | .000 | ADP175 | 10.000 | ADP180 | 15.000 | RREF | INCHES |
| | | | .000 | .000 | ADP181 | 20.000 | | | VMREF | INCHES |
| | | | | | | | | | VMREF | INCHES |
| | | | | | | | | | ZMREF | INCHES |
| | | | | | | | | | SCALE | SCALE |
| | | | | | | | | | | |

SIDE FORCE COEFFICIENT DERIVATIVE WITH BETA, CYBETA, PER DEGREE

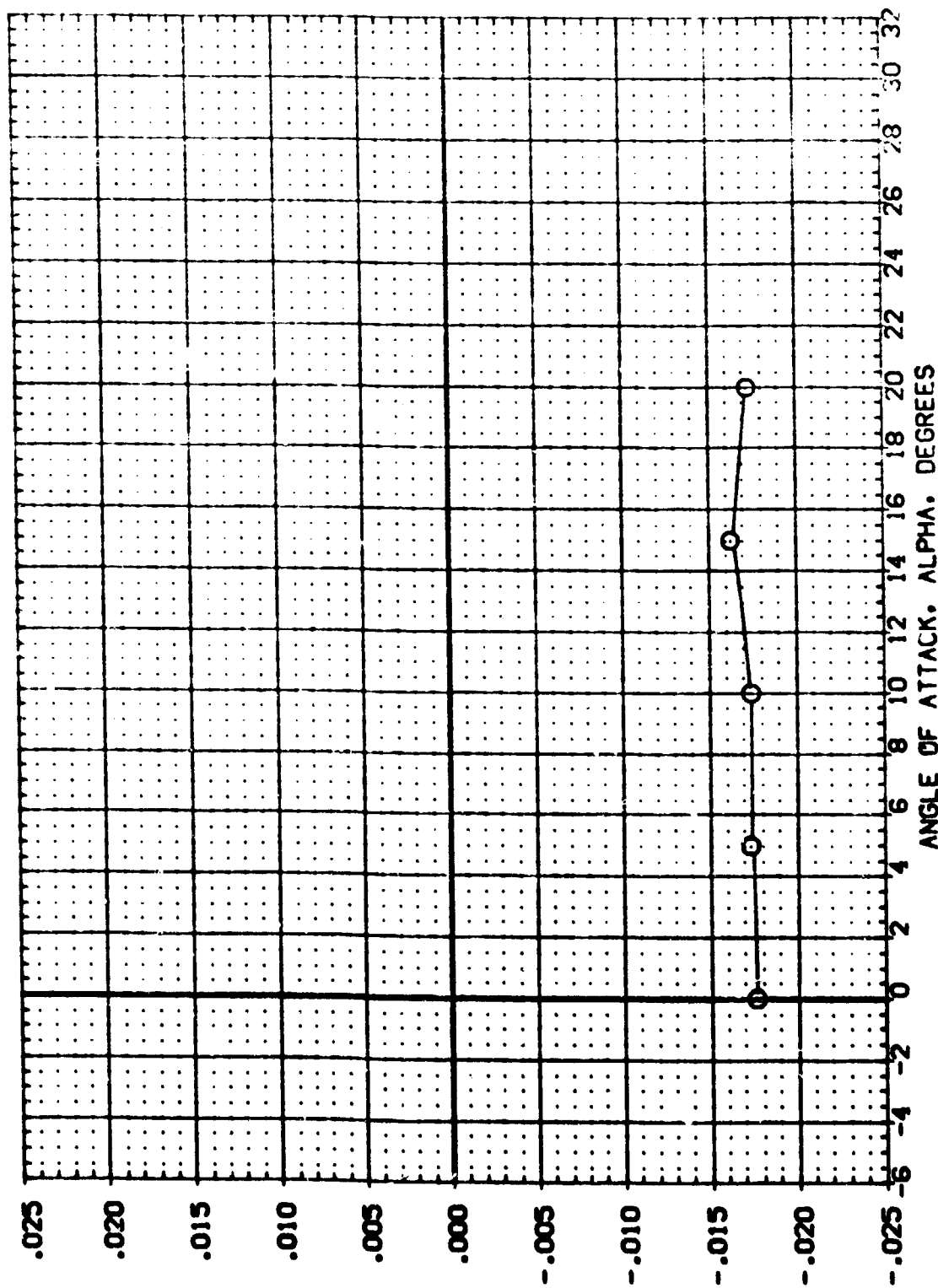


FIGURE 106 CONFIG 139B LAT.-DIR. DERIVATIVES (DATA FROM BETA SWEEPS)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADP184) 8 0A218 81SC7 M4F5 V107E23V7R6
 (ADP185) 8 0A218 81SC7 M4F5 V107E23V7R6

BETA RUDDER SPDRK BOFLAP
 .000 .000 25.000 -18.000
 5.000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.5369 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

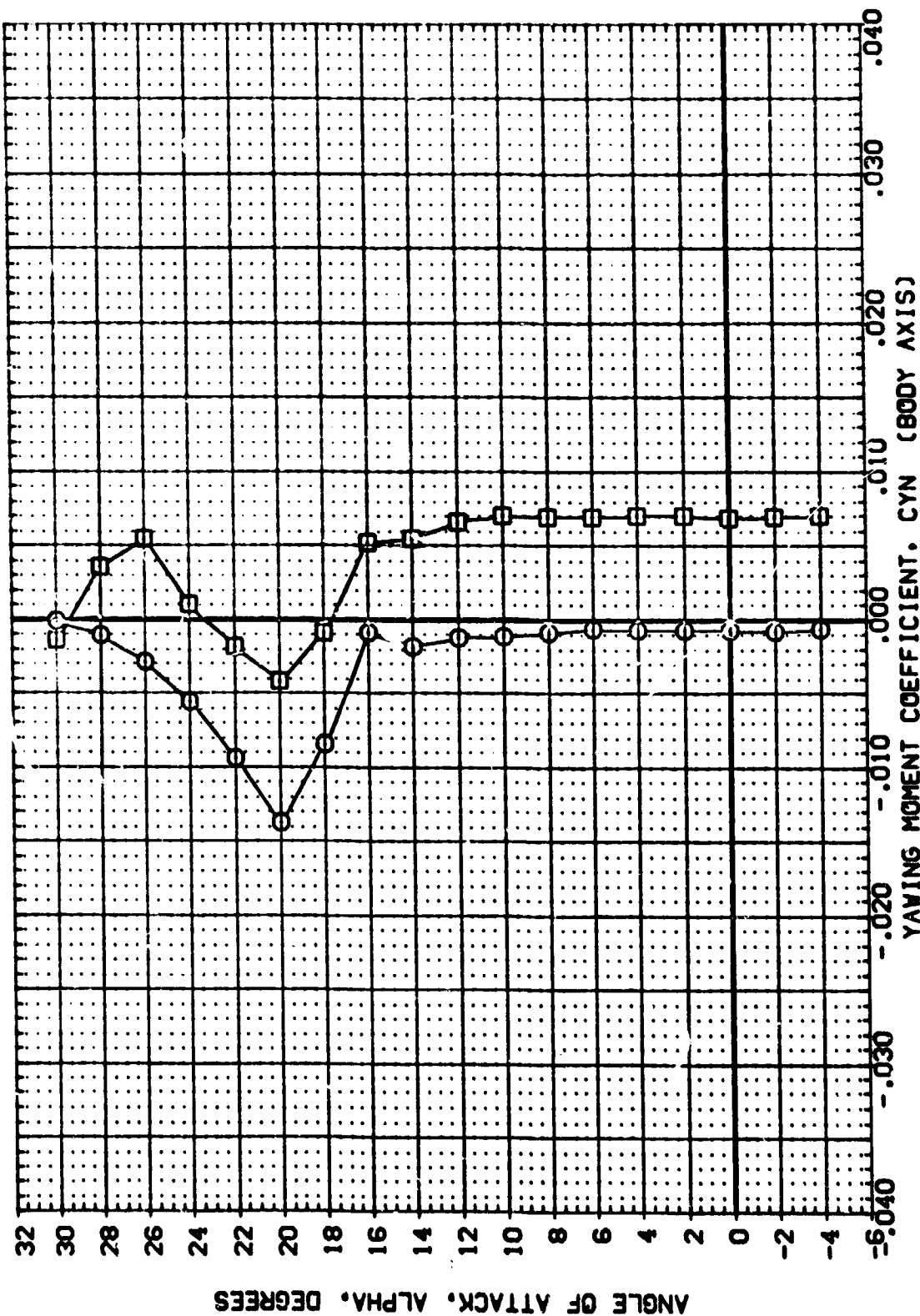


FIGURE 107 CONFIG 139B LAT.-DIR. CHAR. VERSUS ALPHA (DELTA SPDRK = 25 DEG.)

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADP184) 0A218 B15C7 HAF3 V107E23V7H6
 (ADP185) 0A218 B15C7 HAF3 V107E23V7H6

BETA RUDDER SPDBRK BOFLAP REFERENCE INFORMATION
 5.000 .000 25.000 -18.000
 .000 .000 25.000 -18.000
 SO.FT. 4.4119
 INCHES 19.2299
 INCHES 37.9359
 INCHES 43.5974
 INCHES .0000
 INCHES 16.2000
 INCHES .0405
 SCALE

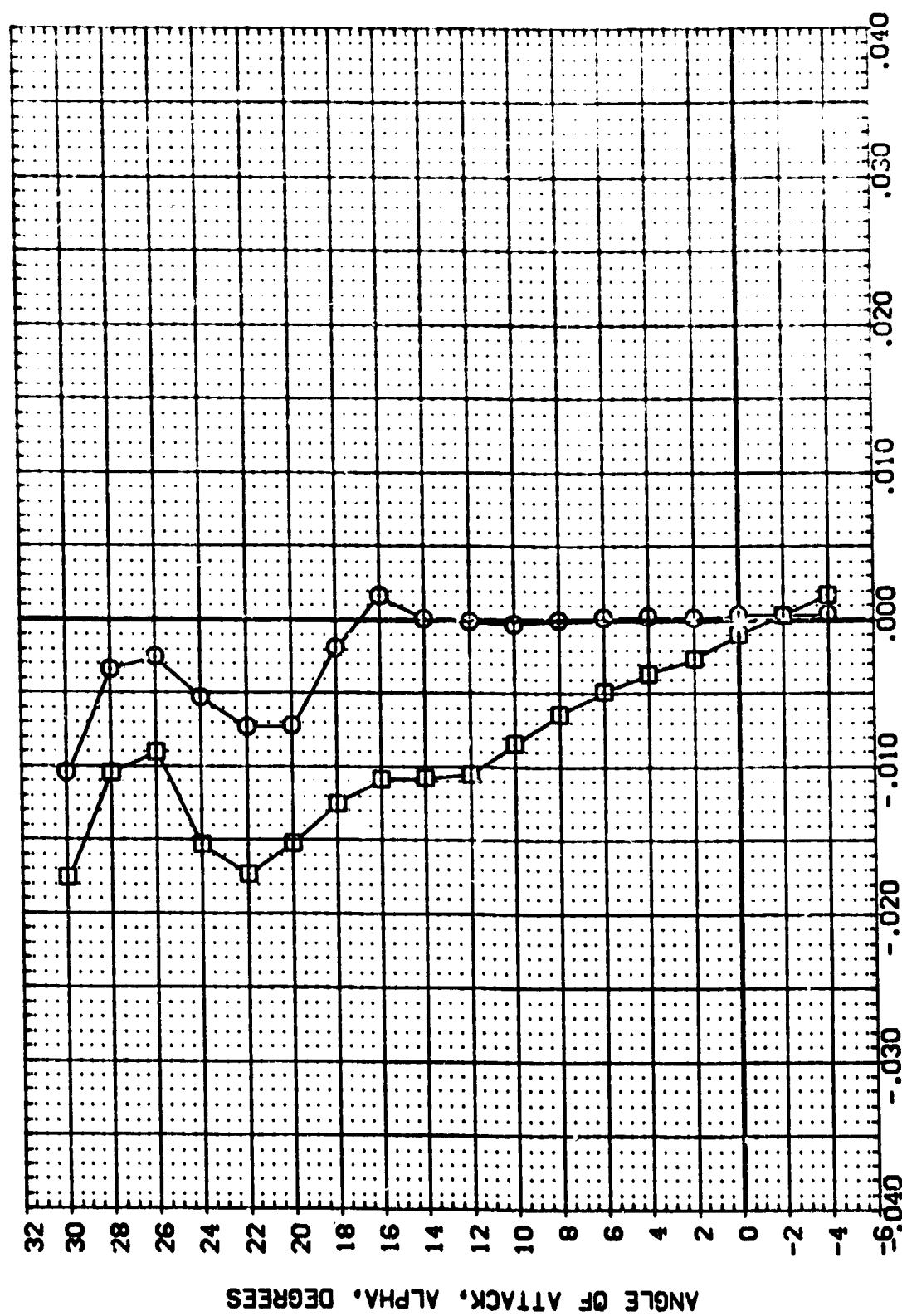


FIGURE 107 CONFIG 1398 LAT.-DIR. CHAR. VERSUS ALPHA (DELTA SPDBRK = 25 DEG.)

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADP184) 0A21B 619C7 M4F5 V107E23V7R6
 (ADP185) 0A21B 819C7 M4F5 V107E23V7R6

BETA .000
 .5.000
 RUDER .000
 .000
 SPDBRK 25.000
 -18.000
 BOTLAP -18.000
 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SO.FT
 LREF 19.2299 INCHES
 BREF 37.9359 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0433

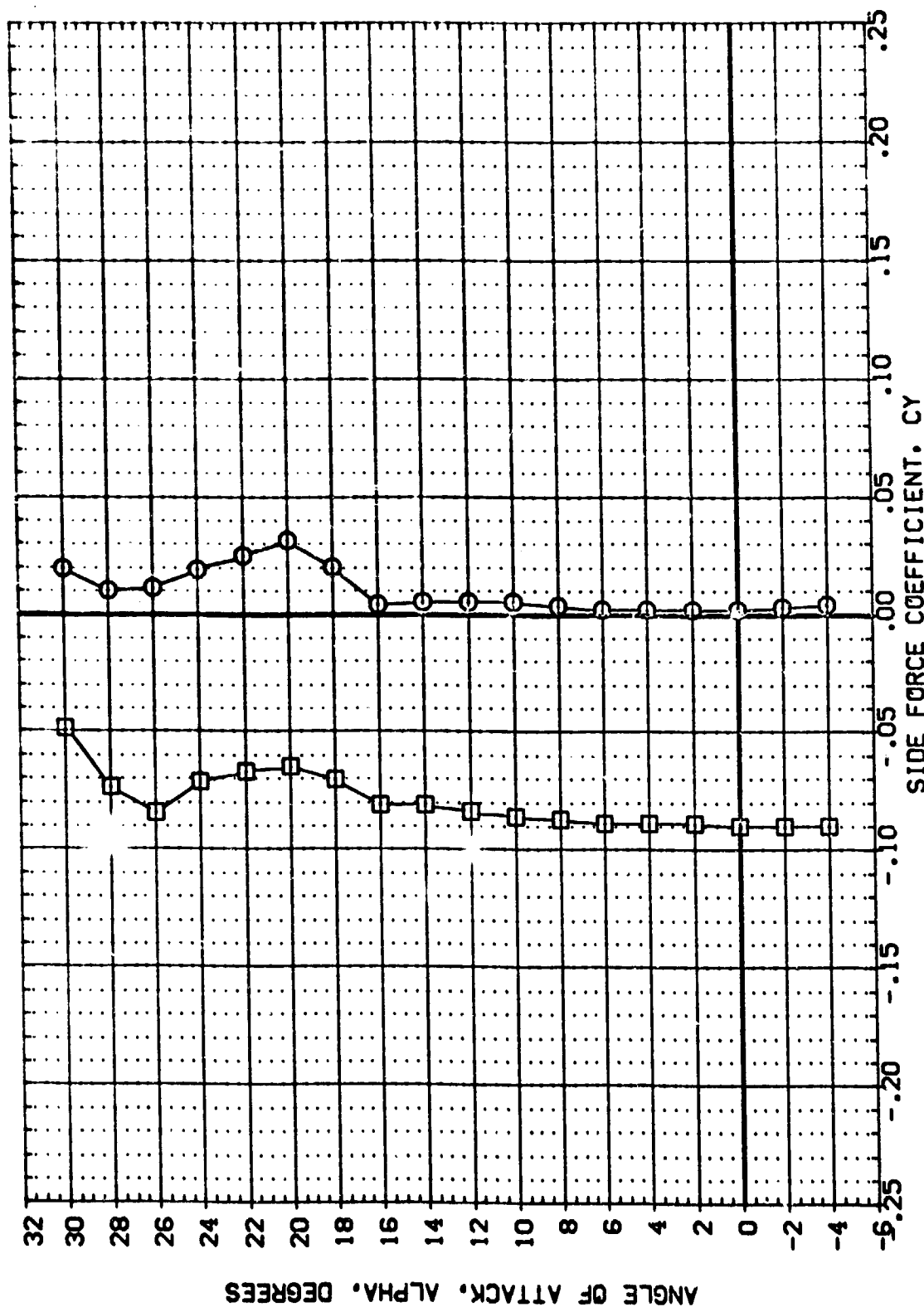


FIGURE 107 CONFIG 139B LAT.-DIR. CHAR. VERSUS ALPHA (DELTA SPDBRK = 25 DEG.)

(A)MACH = .26

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPEED | WING LIFT | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|--------|--------|-----------|-----------------------|
| (ADP186) | 0A21B B1SC7 MAFS | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP187) | 0A21B B1SC7 MAFS | 5.000 | .000 | 25.000 | -18.000 | LRUF 19.2298 INCHES |
| (ADP188) | 0A21B B1SC7 MAFS | 10.000 | .000 | 25.000 | -18.000 | BRUF 37.9359 INCHES |
| (ADP189) | 0A21B B1SC7 MAFS | 15.000 | .000 | 25.000 | -18.000 | XRUF 43.5574 INCHES |
| (ADP190) | 0A21B B1SC7 MAFS | 20.000 | .000 | 25.000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

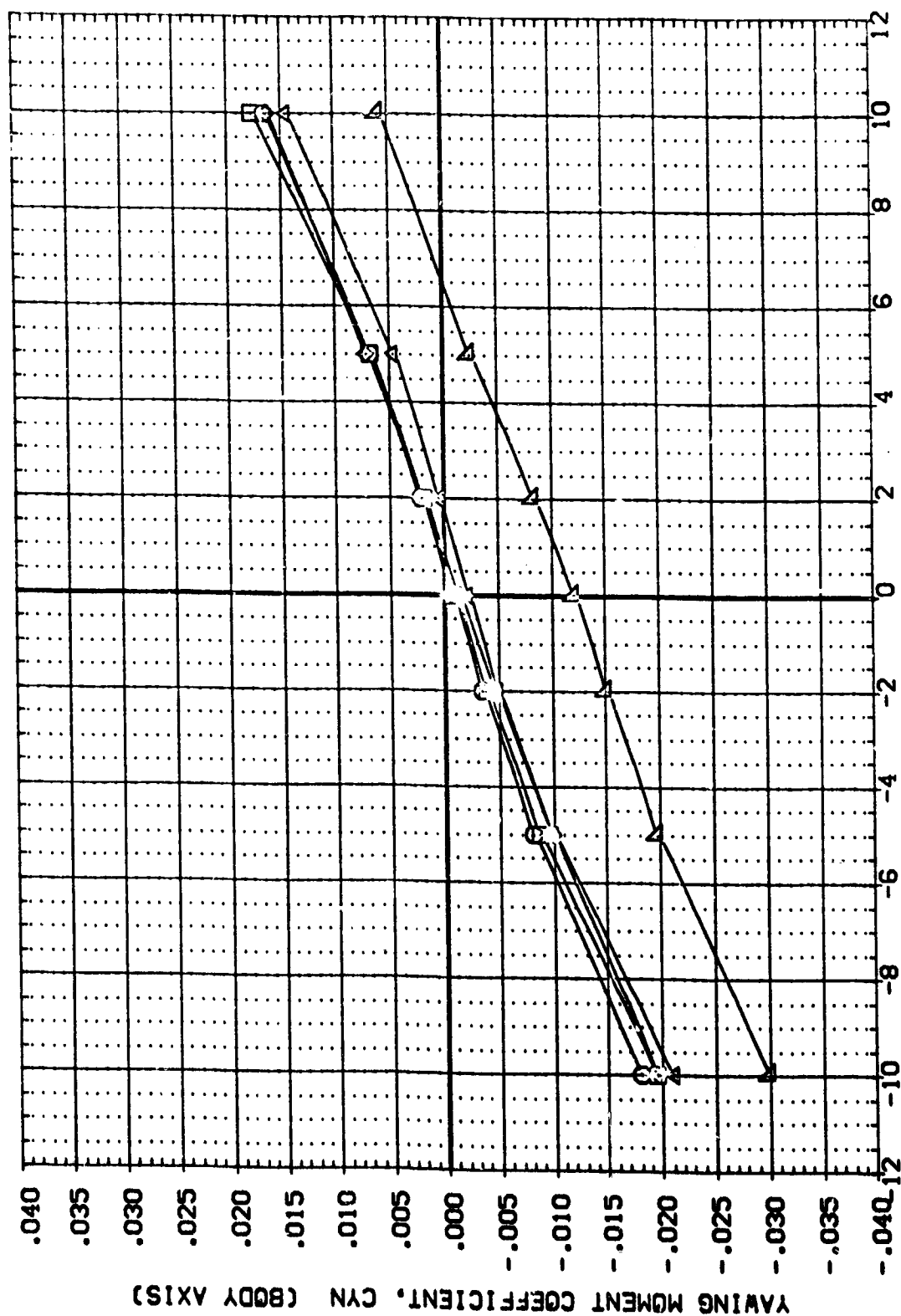


FIGURE 108 CONFIG 139B LAT.-DIR. CHARACTERISTICS VERSUS BETA

(A)MACH = .26

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | BDFLAT | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP186) | 0A218 B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SO.FT. |
| (ADP187) | 0A218 B19C7 M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2259 INCHES |
| (ADP188) | 0A218 B19C7 M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP189) | 0A218 B19C7 M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XMRP 43.5974 INCHES |
| (ADP190) | 0A218 B19C7 M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

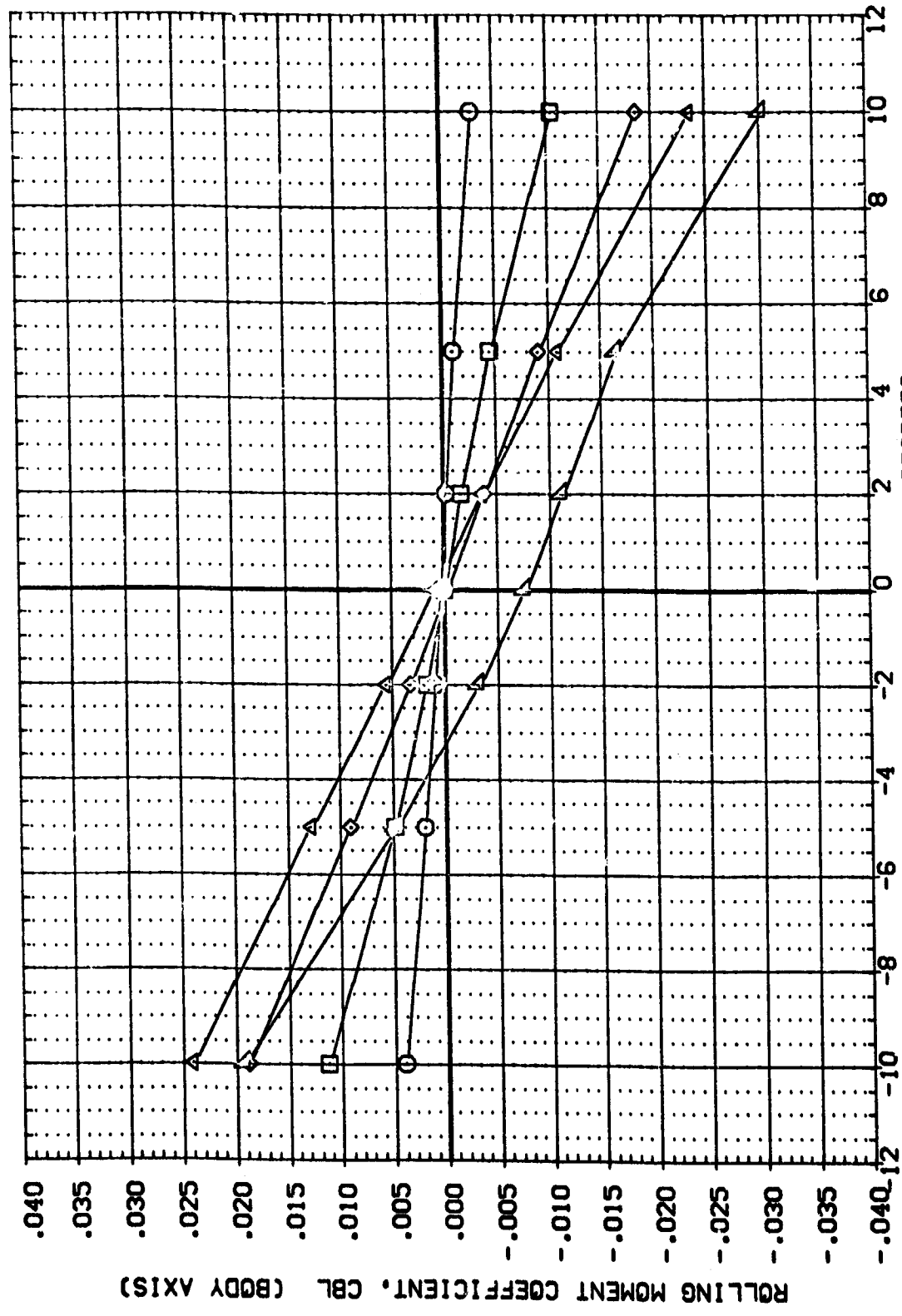


FIGURE 108 CONFIG 139B LAT.-DIR. CHARACTERISTICS VERSUS BETA

(A)MACH = .26

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|--------|---------|---------|-----------------------|
| (ADP186) | 0A218 B19C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP187) | 0A218 B19C7 M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2259 INCHES |
| (ADP188) | 0A218 B19C7 M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.5359 INCHES |
| (ADP189) | 0A218 B19C7 M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| (ADP190) | 0A218 B19C7 M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YREF 16.2000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

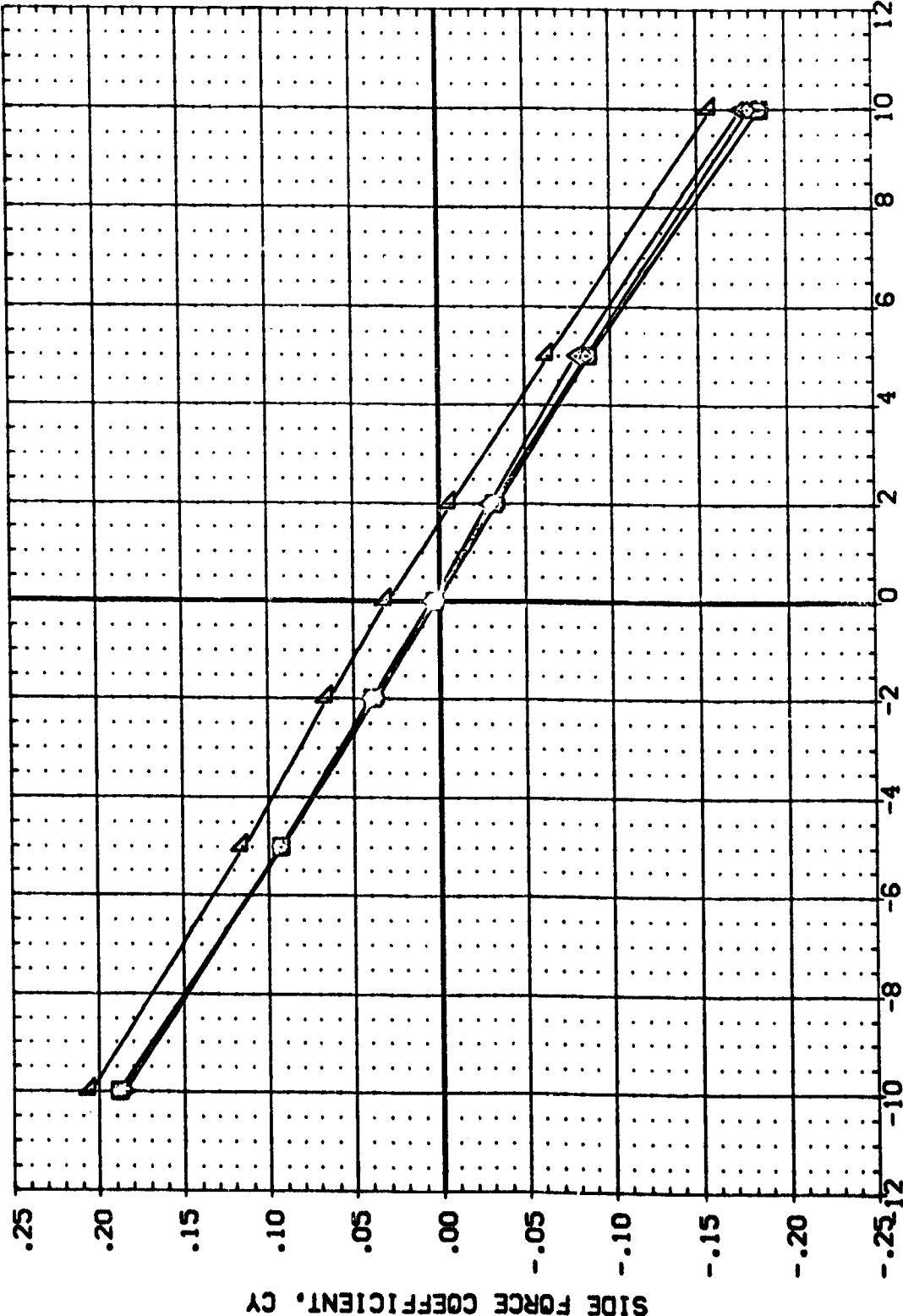


FIGURE 108 CONFIG 139B LAT.-DIR. CHARACTERISTICS VERSUS BETA

(A)MACH = .26



(ADP186)

0A21B B19C7 M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | DATA SOURCE | DATASET | ALPHA | SREF | REFERENCE INFORMATION |
|--------|------|----------------------------|----------------------------------|------------------|-----------------|--|--|
| 0 | .260 | BOFLAP AILRON RUDDER | ALPHA | ADP187 ADP189 | 5.000 15.000 | LREF BREF XMRP YMRP ZMRP SCALE | 50. FT. INCHES INCHES INCHES INCHES INCHES SCALE |
| | | -18.000 .000 .000 | .000 .000 10.000 20.000 | | | 4.4119 19.2299 37.9359 43.5974 0.000 16.2000 .0405 | |

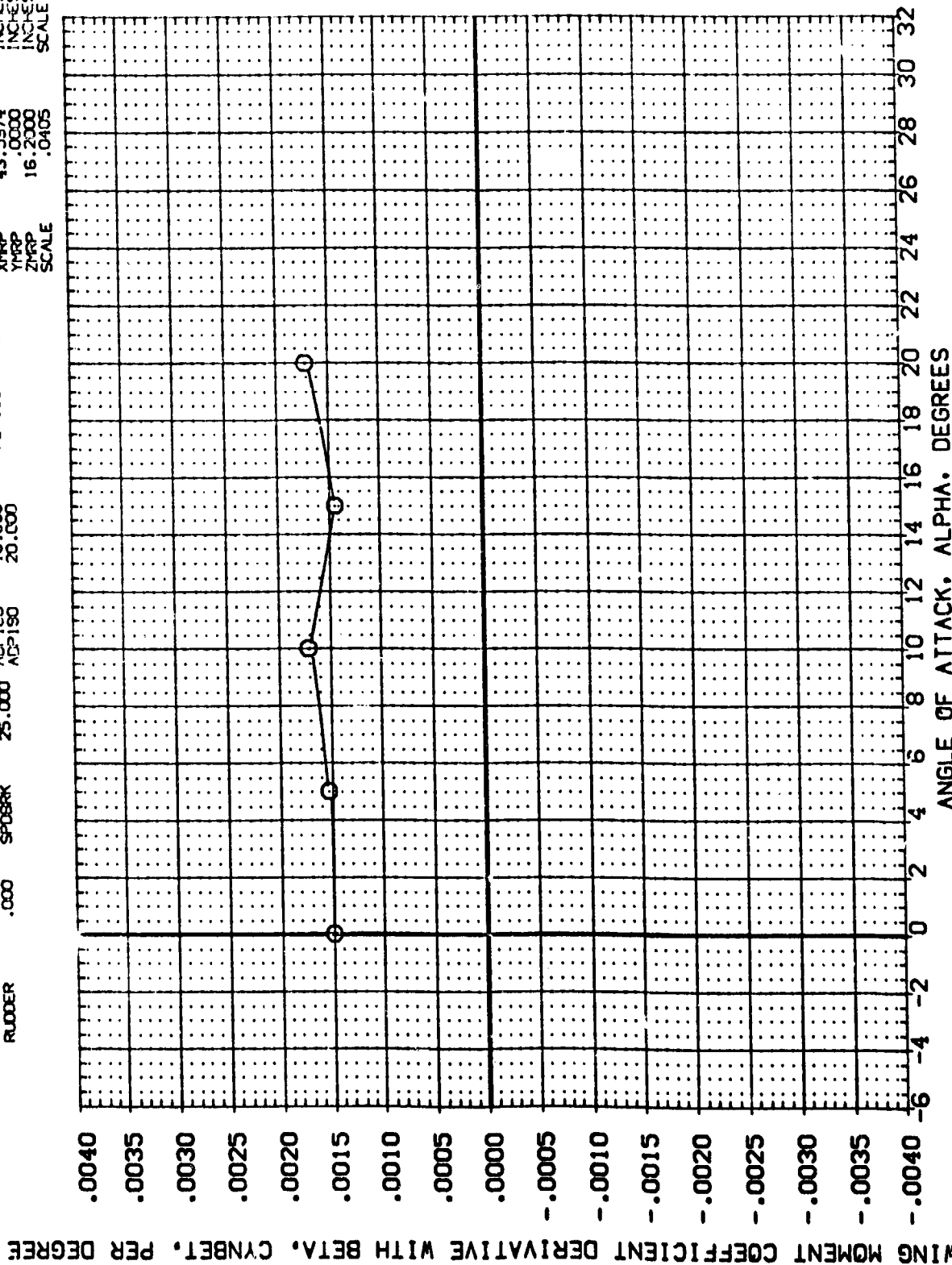


FIGURE 109 CONFIG 1396 LAT.-DIR. DERIVATIVES (DATA FROM BETA SWEEPS)

QA218 B19C7 M4F5 W107E23V7R6

REFERENCE INFORMATION

| | |
|---------|--------|
| 4.4119 | 50.FT. |
| 19.2259 | INCHES |
| 37.9359 | INCHES |
| 43.5974 | INCHES |
| .0000 | INCHES |
| 16.2000 | INCHES |
| .0405 | SCALE |

| DATA SOURCE |
|-------------|
| ALPHA |
| .000 |
| 10.000 |
| 20.000 |

| | |
|-------------------|--------|
| PARAMETRIC VALUES | |
| -18.000 | ELEVON |
| .000 | VTLINE |
| .000 | SPOERK |

**80FLAP
AILRON
RUDDER**

0 SYMBL MICH .260

ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, COLBET, PER DEGREE

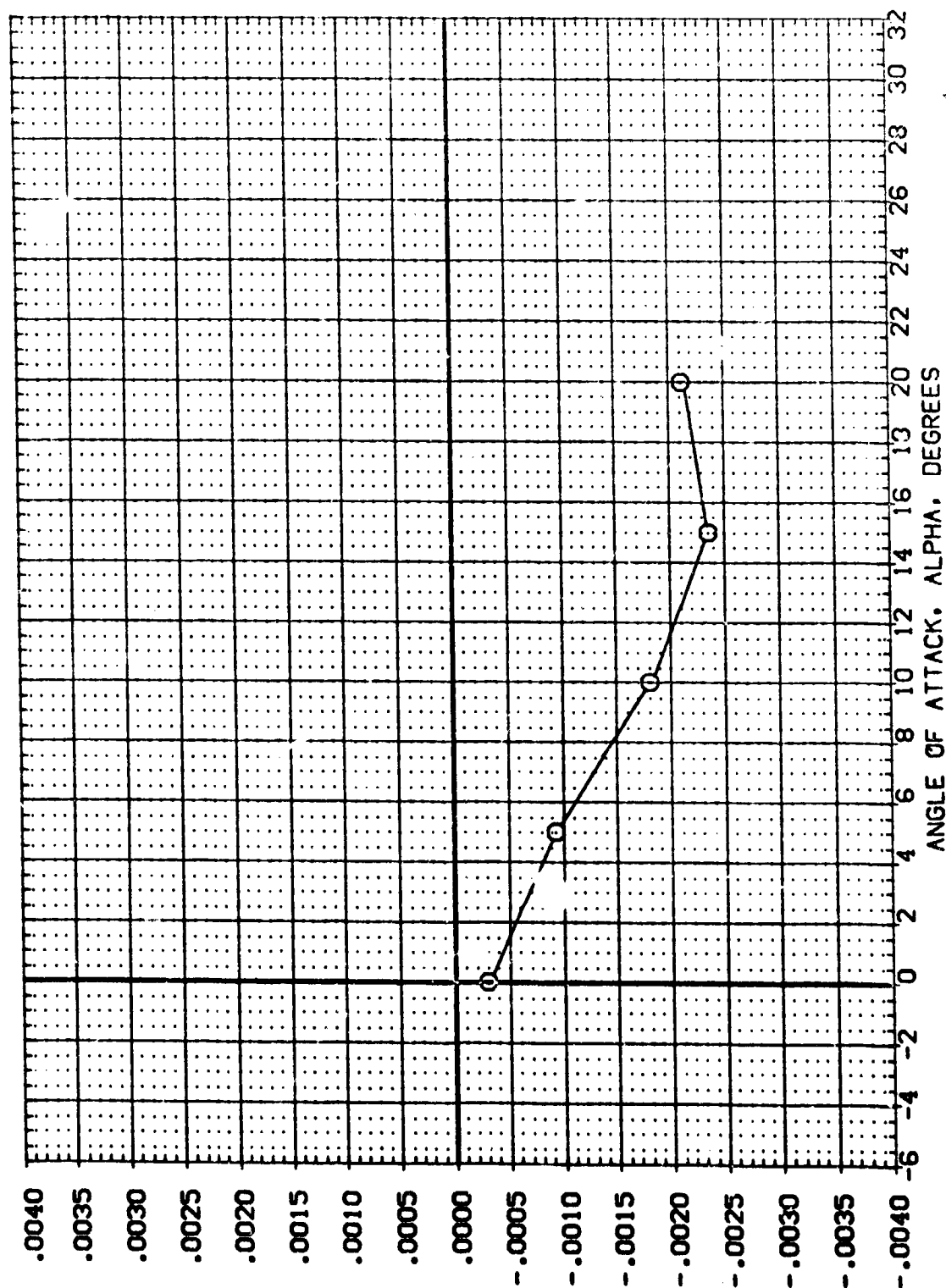


FIGURE 109 CONFIG 139B LAT.-DIR. DERIVATIVES (DATA FROM BETA SWEEPS)



0A21B B19C7 M4F5 W107E23V7R6

(ADP186)

| | | | | |
|--------|------|--|--------------------------------|--|
| SYMBOL | MACH | PARAMETRIC VALUES | DATA SOURCE | REFERENCE INFORMATION |
| ○ | .260 | BOFLAP -18.000 AILRON .000 RUDDER .000 | ALPHA .000 ADP187 ADP189 | SQ.FT. 4.4119 INCHES 19.2299 INCHES 37.9359 INCHES 43.5974 INCHES .0000 INCHES 16.2000 SCALE .0405 |

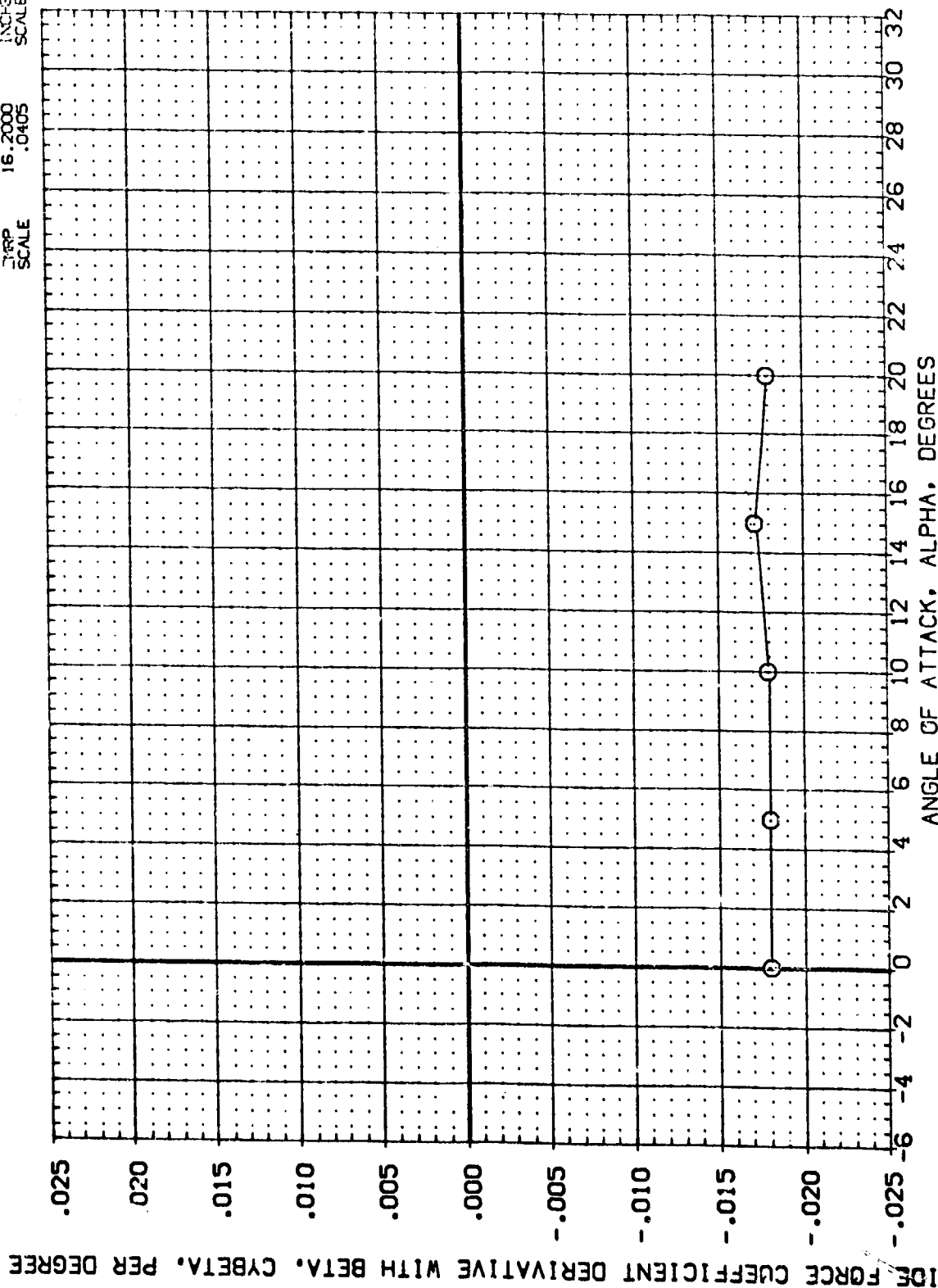


FIGURE 109 CONFIG 139B LAT.-DIR. DERIVATIVES (DATA FROM BETA SWEEPS)

| | | | | | | | | | | | | | |
|-----------------|---|---------------------------|-------|------|-------------|--------|------|--------|---------|--------|---------|-----------------------|--|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | DETA | | RUDDER | | SPDRBK | | BOFLAP | | REFERENCE INFORMATION | |
| (JDP185) | ○ | 0A218 | B15C7 | M4FS | V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | SIZE | 4.4119 | 50. FT. | |
| | | | | | | | | | | REF | 19.2289 | INCHES | |
| | | | | | | | | | | REF | 37.9359 | INCHES | |
| | | | | | | | | | | REF | 43.5974 | INCHES | |
| | | | | | | | | | | ALOP | .0000 | INCHES | |
| | | | | | | | | | | YMRP | 16.2000 | INCHES | |
| | | | | | | | | | | ZMRP | .0400 | SCALE | |

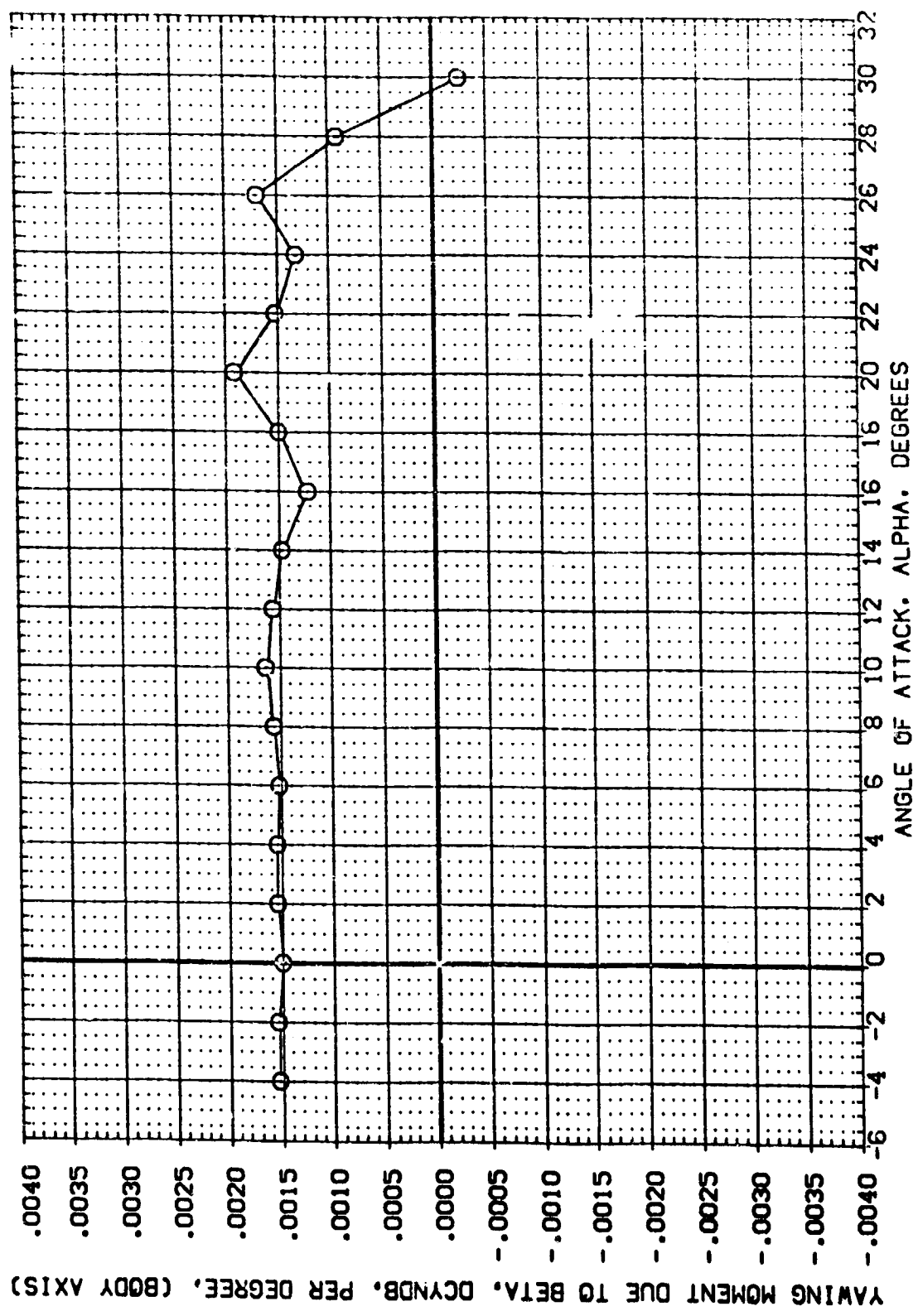


FIGURE 110 CONFIG 1398 LAT.-DIR. DERIVATIVES (DATA FROM ALPHA SWEEPS)

DATA SET SYMBOL (JDP185) O

CONFIGURATION DESCRIPTION 0A21B 819C7 MAFS V107C23V7R6

DBETA 5.000

RUDDER .000

SPOBRK 25.000

BOFLAP -18.000

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2289 INCHES

BREF 37.9359 INCHES

XMRP 43.5374 INCHES

YMRP .0000 INCHES

ZMRP 16.2000 INCHES

SCALE .0405

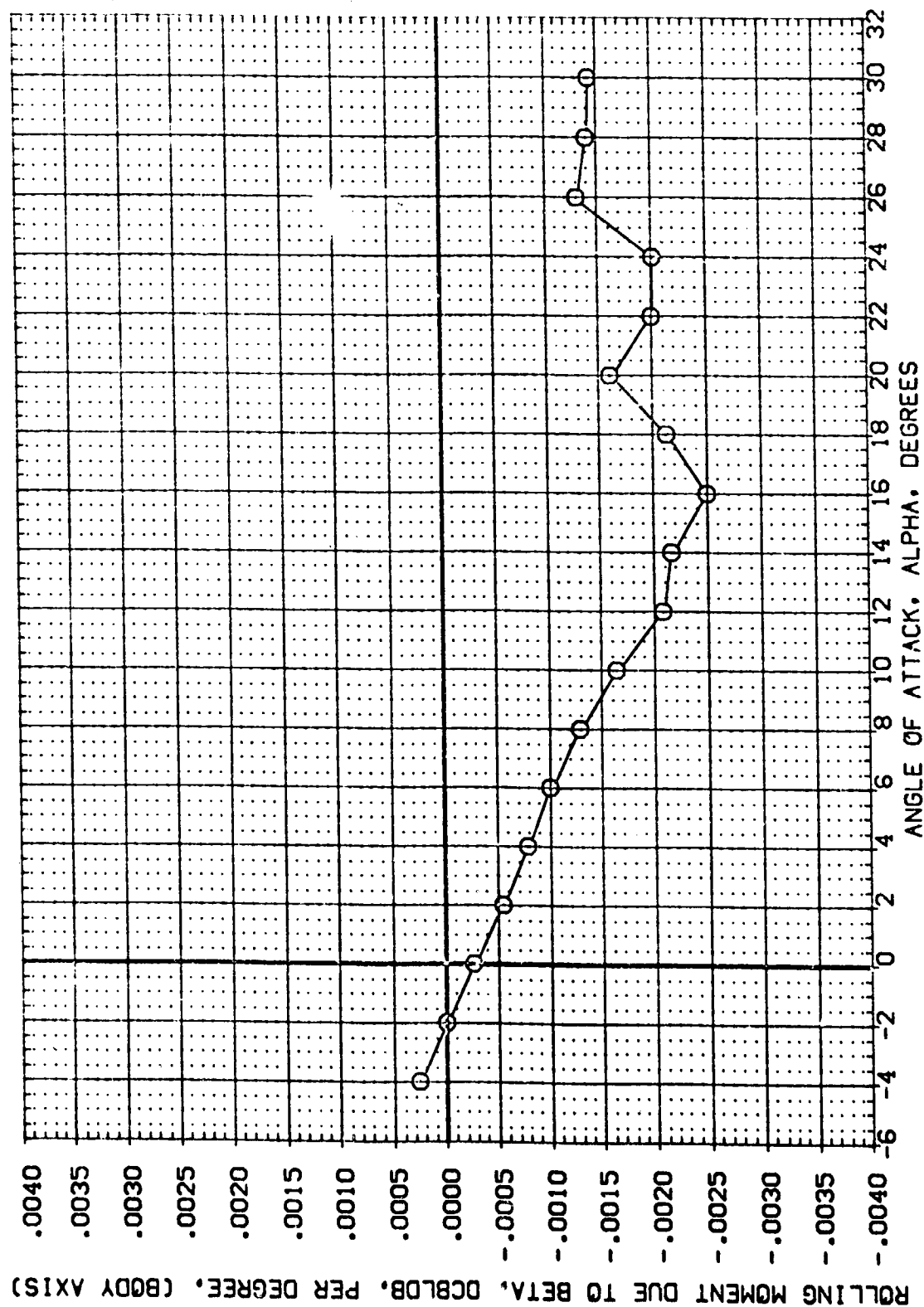


FIGURE 110 CONFIG 139B LAT.-DIR. DERIVATIVES (DATA FROM ALPHA SWEEPS)

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (JDP185) O 0A218 819C7 MAFS V107E23V7R6

DBETA RUDDER SPDGRK BOFLAP
 5.000 .000 25.000 -18.000

REFERENCE INFORMATION
 SREF 4.4119 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9359 INCHES
 XGRP 43.5974 INCHES
 YGRP 10.0000 INCHES
 ZGRP 16.2000 INCHES
 SCALE .0405 INCHES

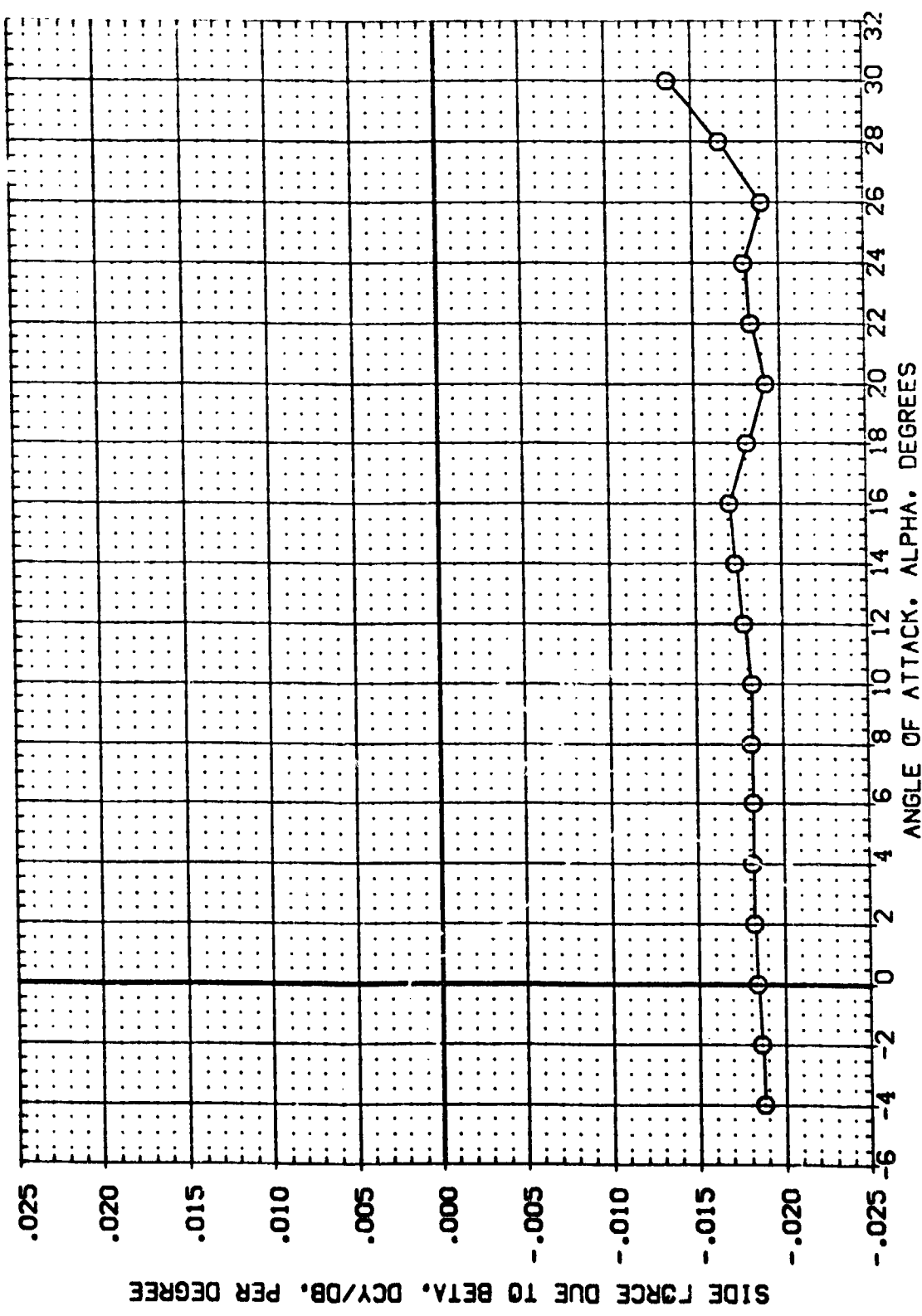


FIGURE 110 CONFIG 139B LAT.-DIR. DERIVATIVES (DATA FROM ALPHA SWEEPS)

(A)MACH = .26

| | | | | | |
|-----------------|-------------|---------------------------|-------------|-----------------------|---------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (AOP193) | 0A218 B19C7 | M4FS | V107E23V7R6 | SREF | 4.4119 |
| (AOP194) | 0A218 B19C7 | M4FS | V107E23V7R6 | LREF | 19.2293 |
| | | | | BREF | 37.9359 |
| | | | | XMRP | 43.5374 |
| | | | | YMRP | 15.2000 |
| | | | | ZMRP | 15.2000 |
| | | | | SCALE | .0403 |

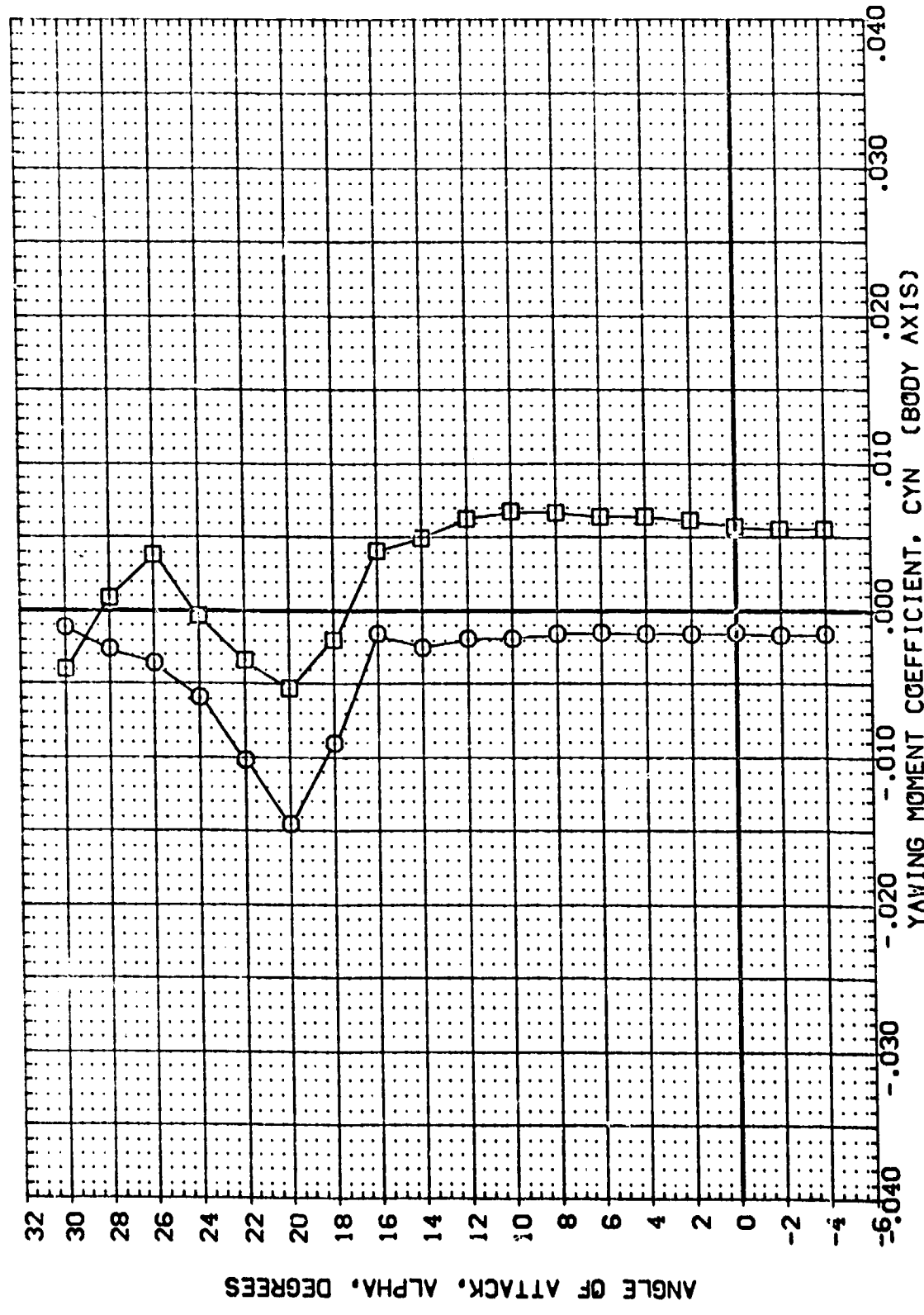


FIGURE 111 CONFIG 139B LAT.-DIR. CHARACTERISTICS (DELTA SPOBRK = 55 DEG.)

| | | | | | |
|-----------------|------------|---------------------------|-------------|-----------------------|----------------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (ADP193) | Q218 819C7 | M4F5 | V107E23V7R6 | SREF | 4.4119 SQ.FT. |
| (ADP194) | Q218 819C7 | M4F5 | V107E23V7R6 | LREF | 19.2299 INCHES |
| | | | | BREF | 37.9359 INCHES |
| | | | | XTRP | 43.5974 INCHES |
| | | | | YTRP | 0.000 INCHES |
| | | | | ZTRP | 16.2000 INCHES |
| | | | | SCALE | .0105 INCHES |

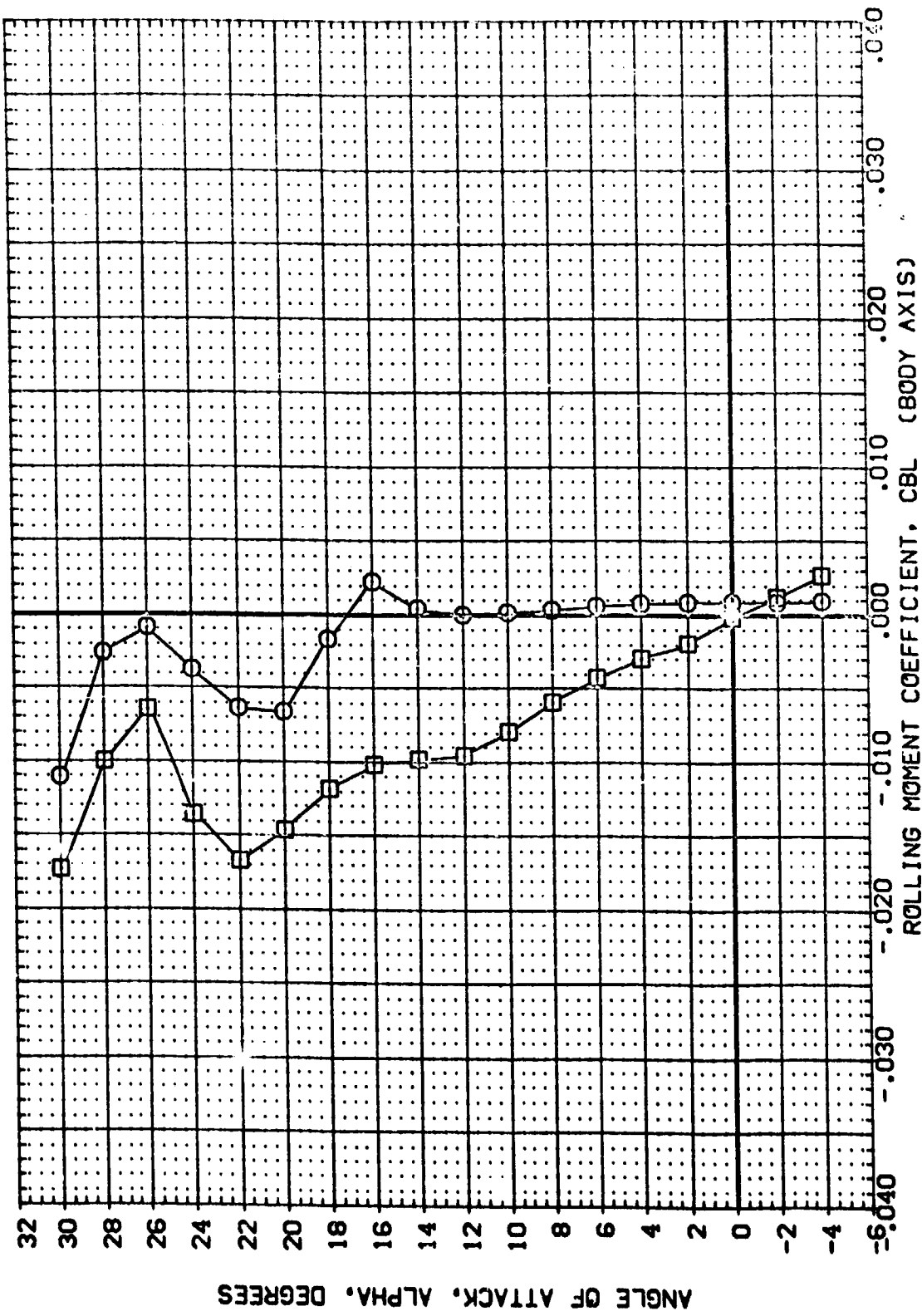


FIGURE 111 CONFIG 139B LAT.-DIR. CHARACTERISTICS (DELTA SPOBRK = 55 DEG.)

| | | | | | | | | | | | | | |
|-----------------|---|---------------------------|-------|------|-------------|--------|------|--------|---------|--------|---------|-----------------------|--------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | BETA | | RUDDER | | SPOBRK | | BOFLAP | | REFERENCE INFORMATION | |
| (ADP193) | □ | 0A218 | B19C7 | M4F5 | V107E23V7R6 | .000 | .000 | 55.000 | -18.000 | SREF | 4.4119 | 50.4119 | SO.FT. |
| (ADP194) | □ | 0A218 | B19C7 | M4F5 | V107E23V7R6 | 5.000 | .000 | 55.000 | -18.000 | LREF | 19.2269 | INCHES | INCHES |
| | | | | | | | | | | XMRP | 37.5559 | INCHES | INCHES |
| | | | | | | | | | | YMRP | 43.5574 | INCHES | INCHES |
| | | | | | | | | | | ZMRP | .0000 | INCHES | INCHES |
| | | | | | | | | | | SCALE | 16.2000 | INCHES | SCALE |
| | | | | | | | | | | | .0405 | INCHES | SCALE |

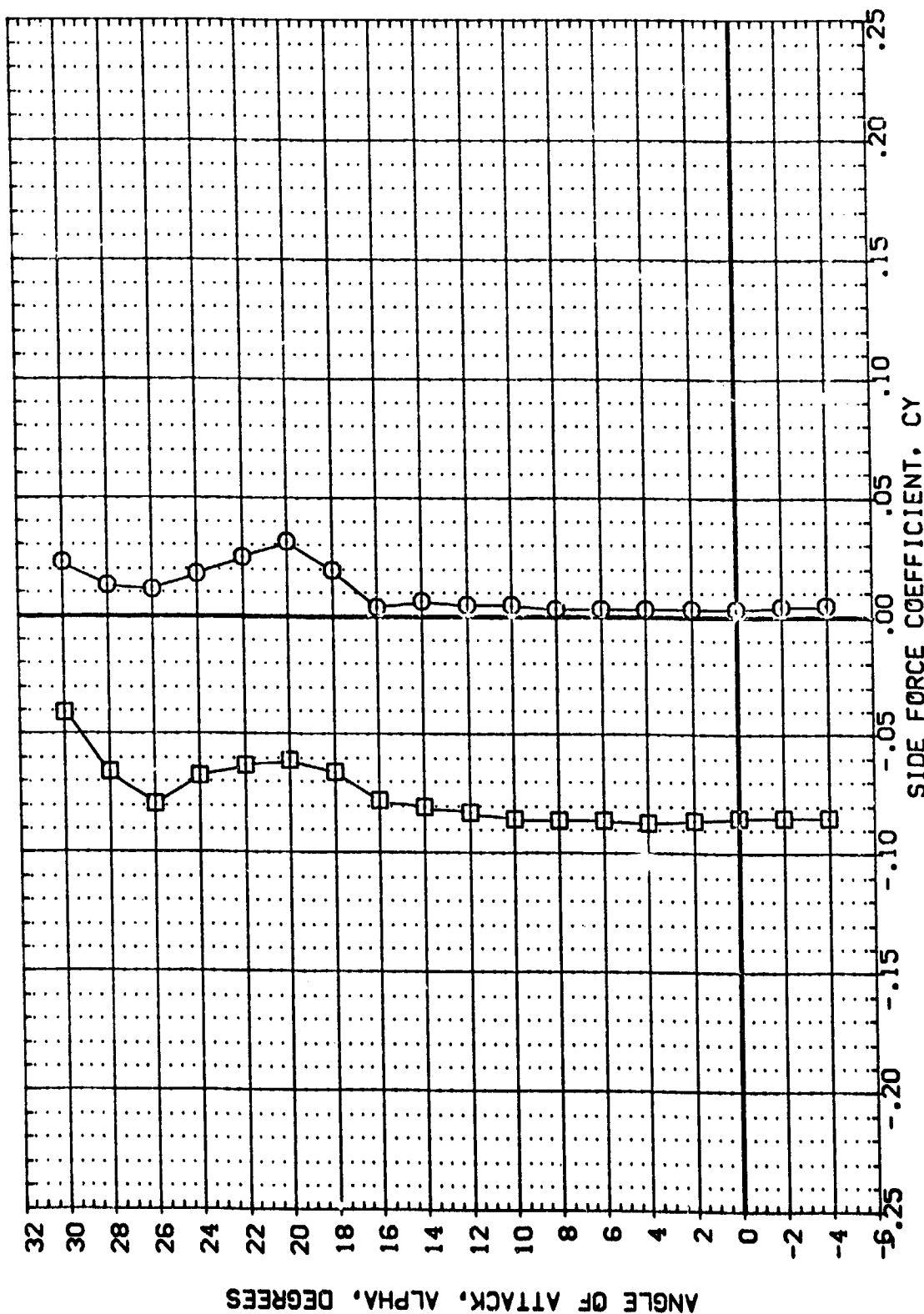


FIGURE 111 CONFIG 139B LAT.-DIR. CHARACTERISTICS (DELTA SPOBRK = 55 DEG.)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(JDP194) O 0A218 819C7 MAFS V107E23V7R6

DBETA RUDDER SPDBRK BOFLAP
5.000 .000 55.000 -18.000

REFERENCE INFORMATION
SRF 4.4119 50.FT.
LREF 19.2299 INCHES
SREF 37.9359 INCHES
XMRP 43.5974 INCHES
YMRP .0000 INCHES
ZMRP 16.2000 INCHES
SCALE .0405

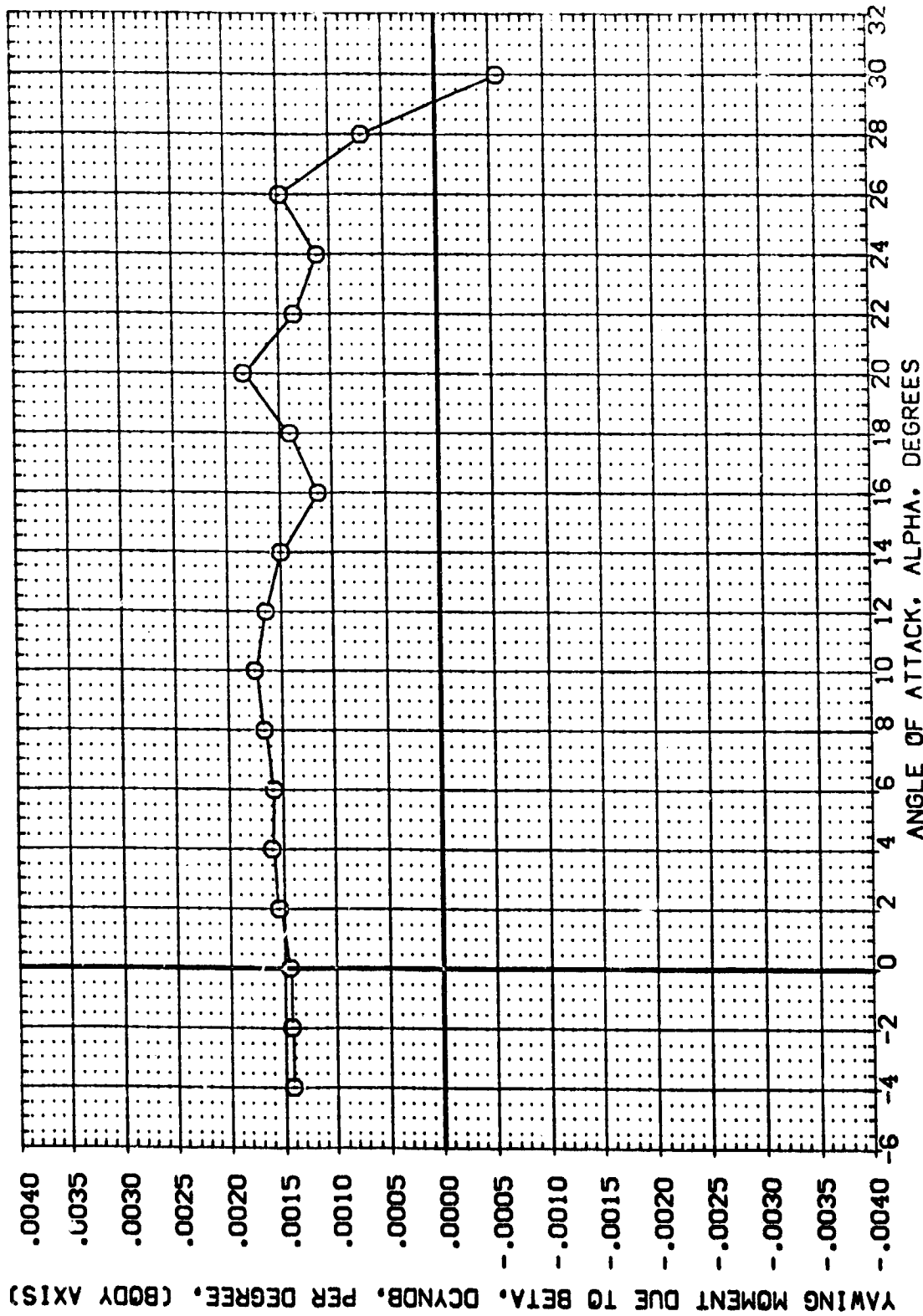


FIGURE 112 CONFIG 139B LAT.-DIR. DERIVATIVES (DELTA SPDBRK = 55 DEG.)

(AJMACH = .26



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(JDP194) O 0A218 BISC7 MFS V107E23/7R6

| | | | | | | | |
|-------|---------|--------|------|-------|--------|--------|---------|
| OBETA | 5.000 | RUDDER | .000 | SPDRK | 55.000 | BOFLAP | -18.000 |
| SREF | 4.4119 | SO.FT. | | | | | |
| LREF | 19.2299 | INCHES | | | | | |
| BREF | 37.9359 | INCHES | | | | | |
| YMRP | 43.5874 | INCHES | | | | | |
| ZMRP | .0000 | INCHES | | | | | |
| SCALE | 16.2000 | INCHES | | | | | |
| | .0405 | SCALE | | | | | |

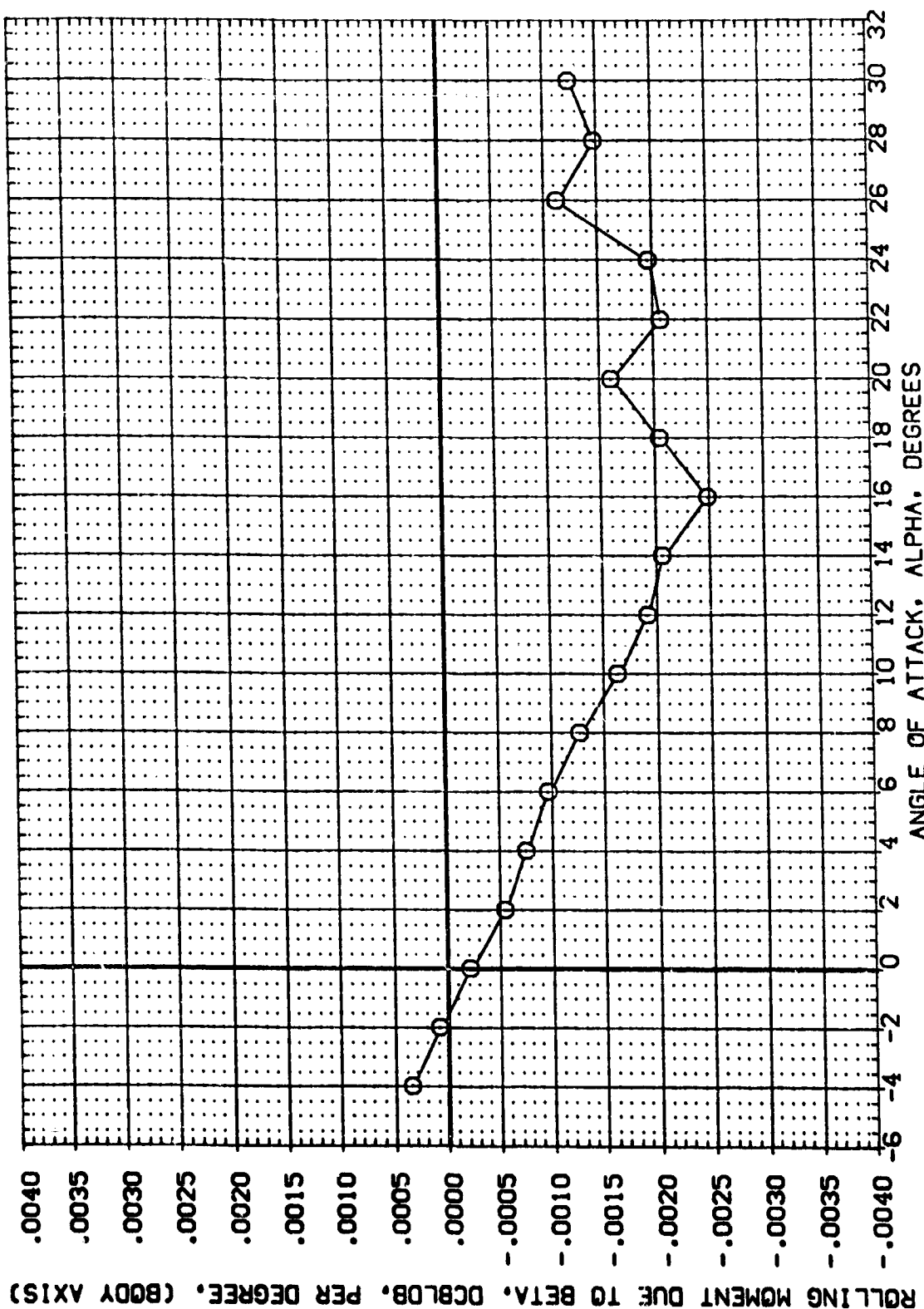


FIGURE 112 CONFIG 139B LAT.-DIR. DERIVATIVES (DELTA SPDRK = 55 DEG.)

DATA SET SYMBOL: 01218 819C7 MAF5 V107E23V7R6

DBETA 5.000 RUDDER .000 SPOBRK 55.000 BOFLAP -18.000

REFERENCE INFORMATION
 SREF 4.4119 SO.FT
 LREF 19.2299 INCHES
 BREF 37.9359 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

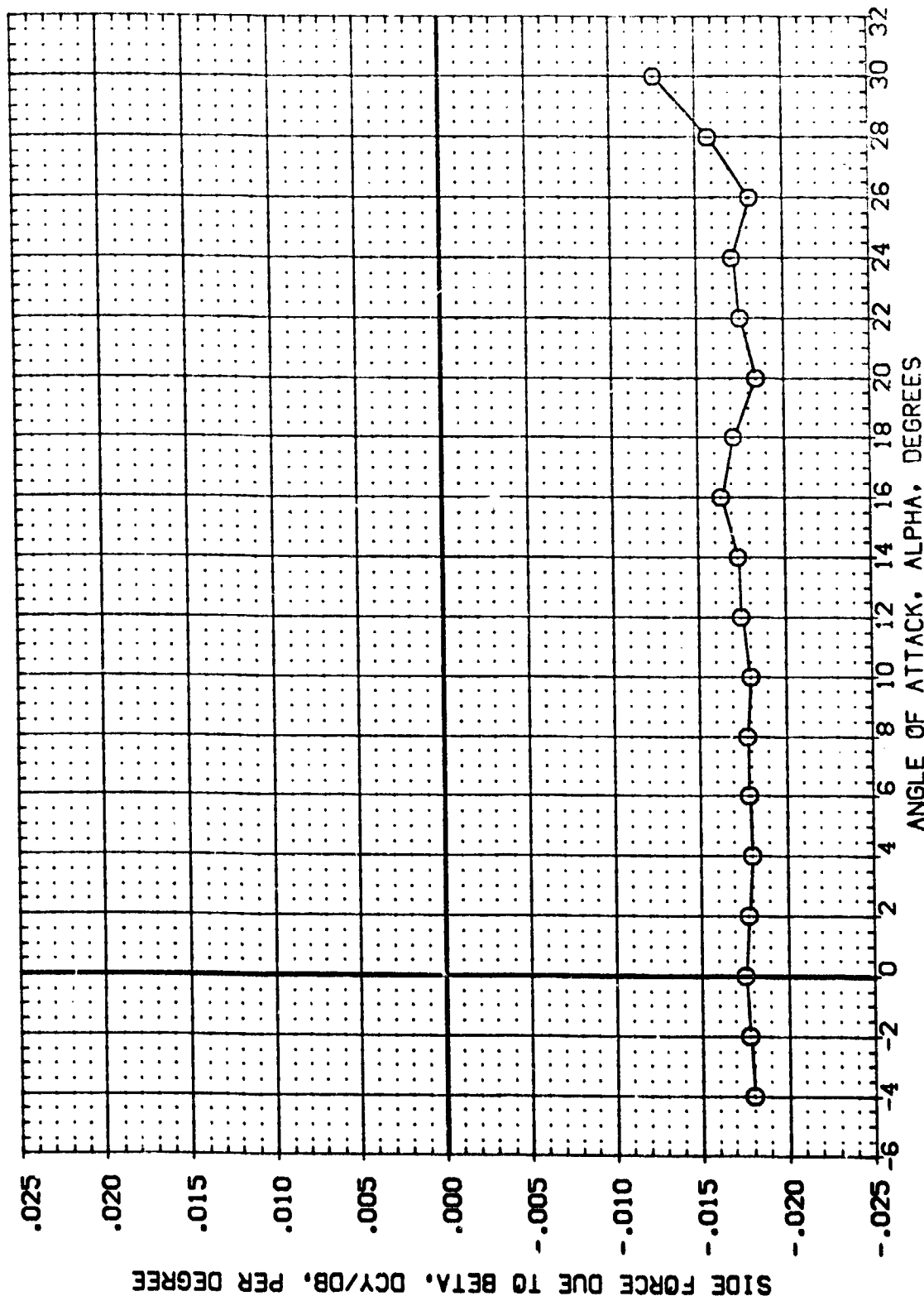


FIGURE 112 CONFIG 1398 LAT.-DIR. DERIVATIVES (DELTA SPOBRK = 55 DEG.)

CAJMACH = .26

| | | | | | |
|-----------------|---|---------------------------|-------|-----------------------|-------------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (ADP195) | □ | 0A21B | B19C7 | M4F5 | V107E23V7R6 |
| (ADP196) | □ | 0A21B | B19C7 | M4F5 | V107E23V7R6 |

| | | | |
|-------|-------|--------|---------|
| BETA | RUDER | SPDBRK | BDFLAP |
| .000 | .000 | 85.000 | -18.000 |
| 5.000 | .000 | 85.000 | -18.000 |

| | | |
|-------|---------|--------|
| SREF | 4.4119 | 50.FT. |
| LREF | 19.2289 | INCHES |
| XMRP | 37.5359 | INCHES |
| YMRP | 43.5974 | INCHES |
| ZMRP | .0000 | INCHES |
| SCALE | 16.2000 | INCHES |
| | .0405 | SCALE |

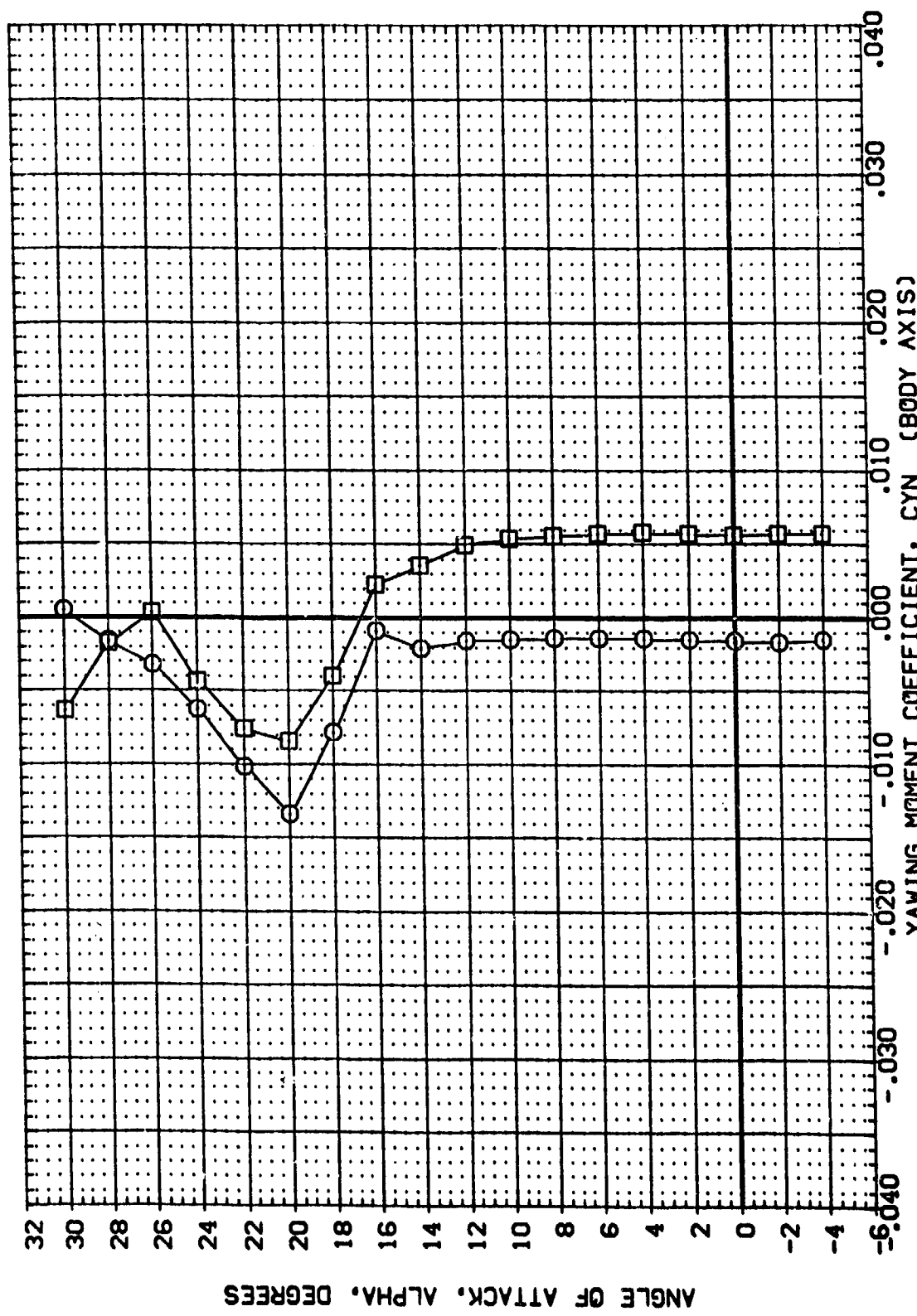


FIGURE 113 CONFIG 139B LAT.-DIR. CHARACTERISTICS (DELTA SPDBRK = 85 DEG.)

(A)MACH = .26

| | | | | | |
|-----------------|-------|---------------------------|------|-----------------------|---------|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | REFERENCE INFORMATION | |
| (ADP155) | 0A218 | 819C7 | M4F3 | SREF | 4.4119 |
| (ADP156) | 0A218 | 819C7 | M4F5 | LREF | 19.2299 |
| | | | | BREF | 37.9359 |
| | | | | XMRP | 43.5574 |
| | | | | YMRP | .0000 |
| | | | | ZMRP | 16.2000 |
| | | | | SCALE | .0405 |
| | | | | | SCALE |

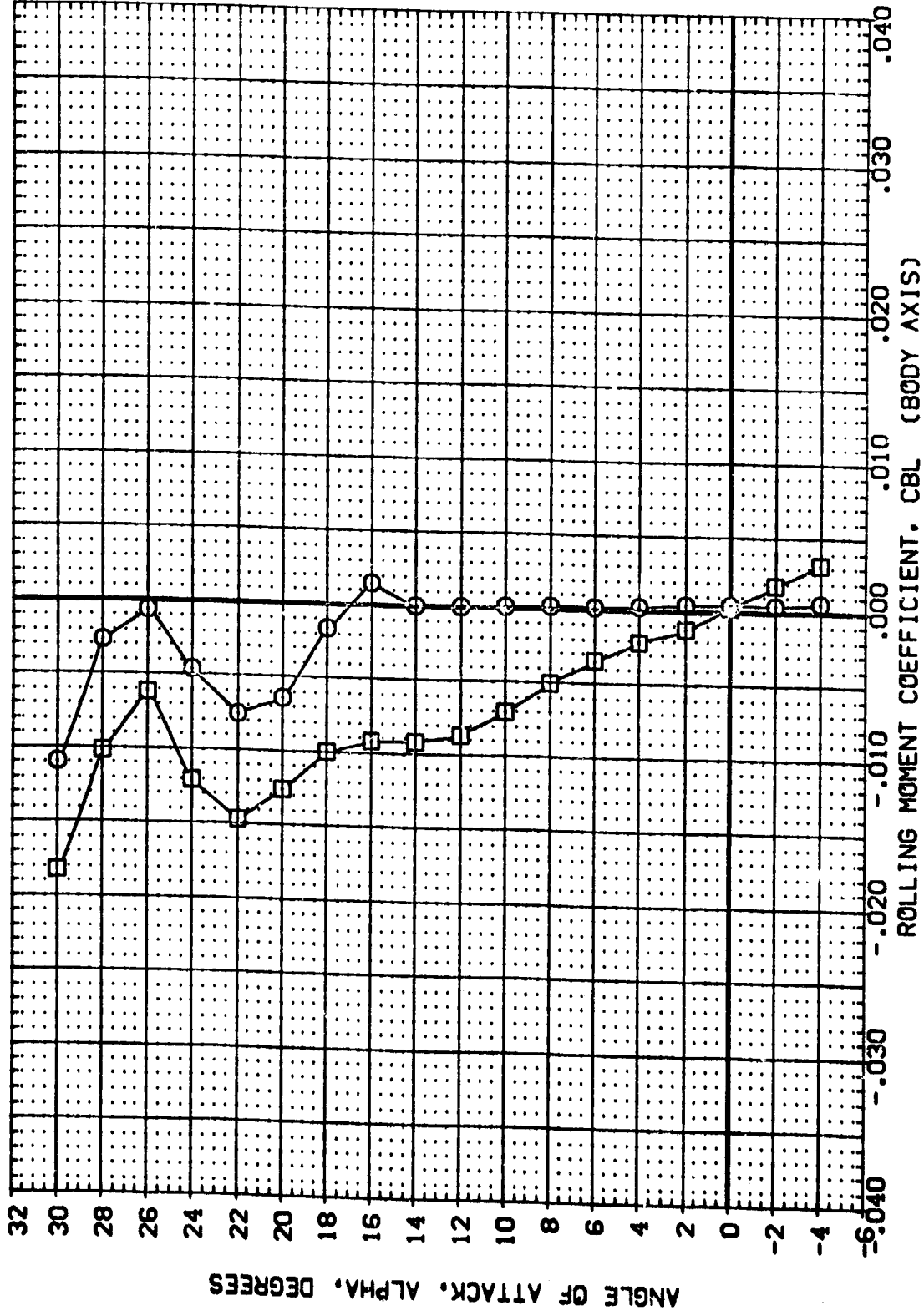


FIGURE 113 CONFIG 139B LAT.-DIR. CHARACTERISTICS (DELTA SPDBRK = 85 DEG.)

(AJMACH = .26

| | | | | | | | | | | | | |
|-----------------|---|---------------------------|-------|------|-------------|--------|--------|---------|-----------------------|---------|---------|--|
| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | | BETA | | RUDDER | SPDBRK | BOFLAP | REFERENCE INFORMATION | | | |
| (ADP195) | □ | 0A218 | B19C7 | M4F5 | V107E23V7R6 | .000 | .000 | -18.000 | SREF | 4.4119 | 50. FT. | |
| (ADP196) | □ | 0A218 | B19C7 | M4F5 | V107E23V7R6 | .000 | 85.000 | -18.000 | LREF | 19.2299 | INCHES | |
| | | | | | | | 85.000 | | BREF | 37.9359 | INCHES | |
| | | | | | | | | | XTRP | 43.5974 | INCHES | |
| | | | | | | | | | YMRP | .0000 | INCHES | |
| | | | | | | | | | ZMRP | 16.2000 | INCHES | |
| | | | | | | | | | SCALE | .0405 | SCALE | |

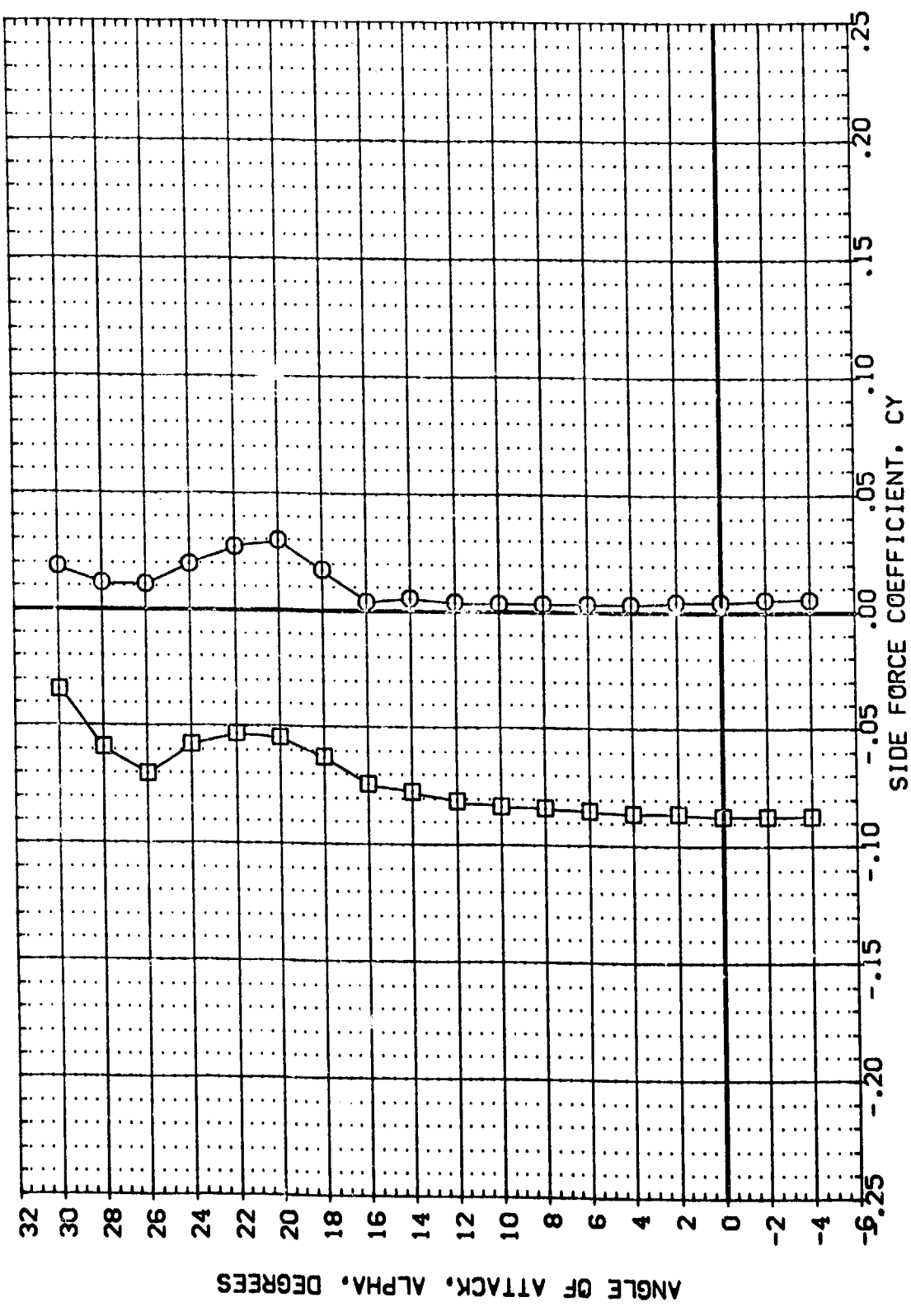


FIGURE 113 CONFIG 1398 LAT.-DIR. CHARACTERISTICS (DELTA SPDBRK = 85 DEG.)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(JOP196) O 0A218 B19C7 MAFS V107E23V7R6

DBETA RUDDER SPOBRK BOFLAP
5.000 .000 85.000 -18.000

REFERENCE INFORMATION
SREF 4.4119 SQ.FT.
LREF 19.2298 INCHES
BREF 37.9359 INCHES
XMRP 43.5874 INCHES
YMRP .0000 INCHES
ZMRP 16.2000 INCHES
SCALE .0405 SCALE

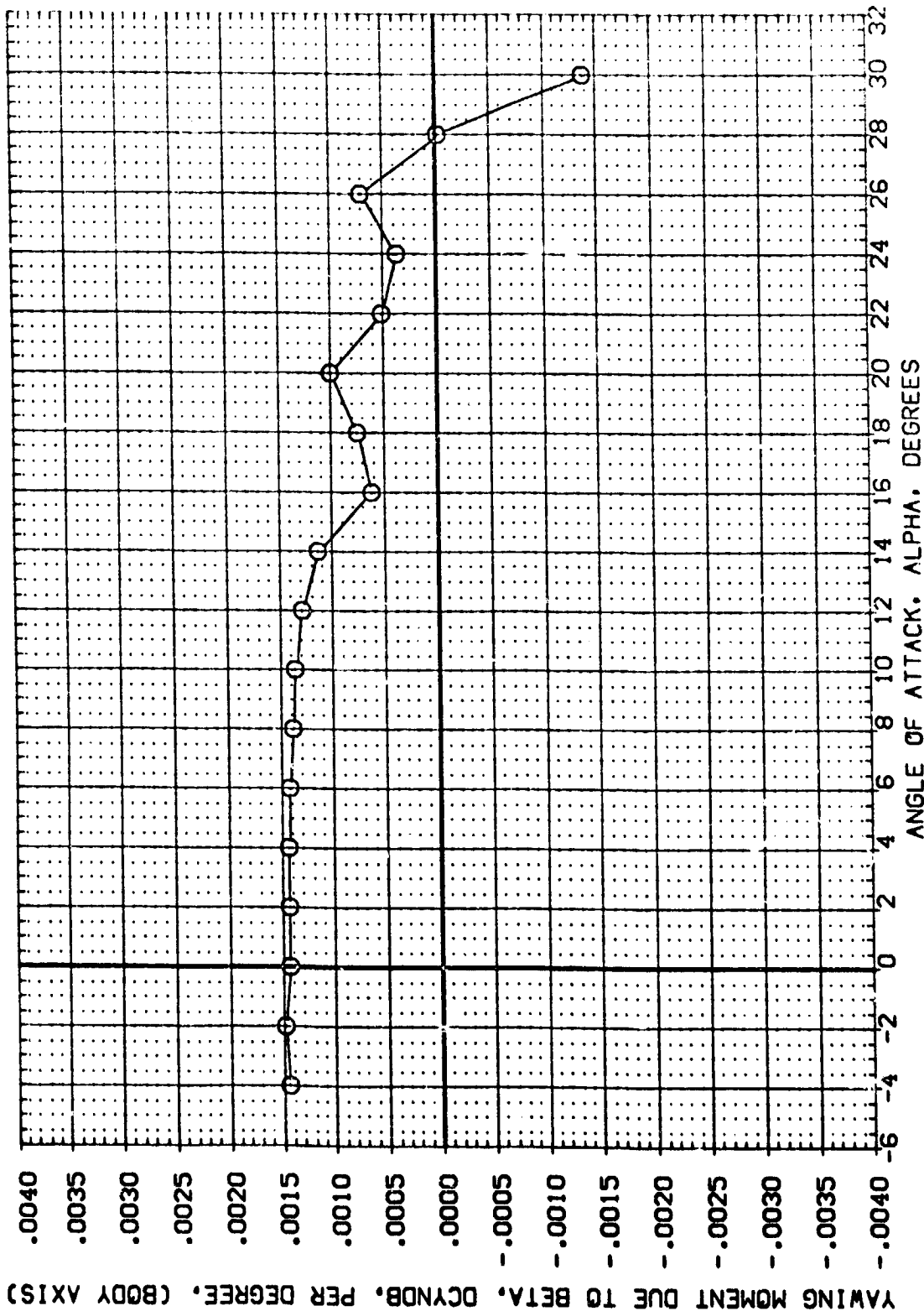


FIGURE 114 CONFIG 139B LAT.-DIR. DERIVATIVES (DELTA SPOBRK = 85 DEG.)

(A)MACH = .26

DATA SET SYMBOL: 0218 B19C7 M4F5 V107E23V7R6
(JDP196)

DBETA: 5.000
RUDDER: .000
SPOBRK: 85.000
BOFLAP: -18.000

REFERENCE INFORMATION
SREF: 4.4119 SQ.FT.
LREF: 19.2299 INCHES
BREF: 37.9359 INCHES
XMRP: 43.5974 INCHES
YMRP: .0000 INCHES
ZMRP: 16.2000 INCHES
SCALE: .0405

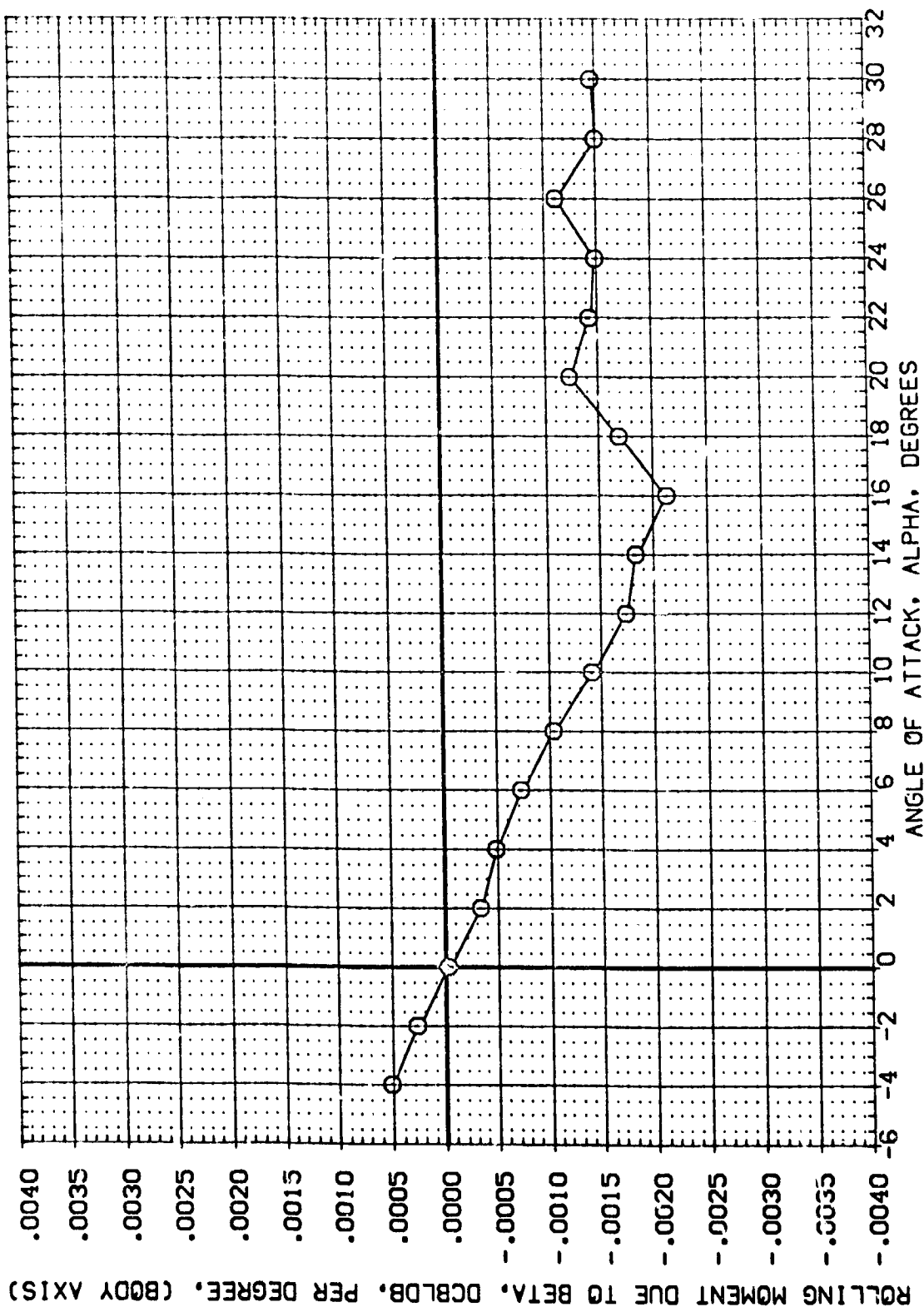


FIGURE 114 CONFIG 130B LAT.-DIR. DERIVATIVES (DELTA SPOBRK = 85 DEG.)

(A)MACH = .26

| | | | | | | |
|-----------------|------------------------------|-------|--------|--------|---------|-----------------------|
| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | BETA | RUDDER | SPOBRK | BOFLAP | REFERENCE INFORMATION |
| (JOP196) | 0A21B 819C7 HAFS V107E23V7R6 | 5.000 | .000 | 85.000 | -18.000 | SREF 4.4119 50. FT. |
| | | | | | | LREF 19.2298 INCHES |
| | | | | | | BRF 37.9359 INCHES |
| | | | | | | XRFP 43.5974 INCHES |
| | | | | | | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

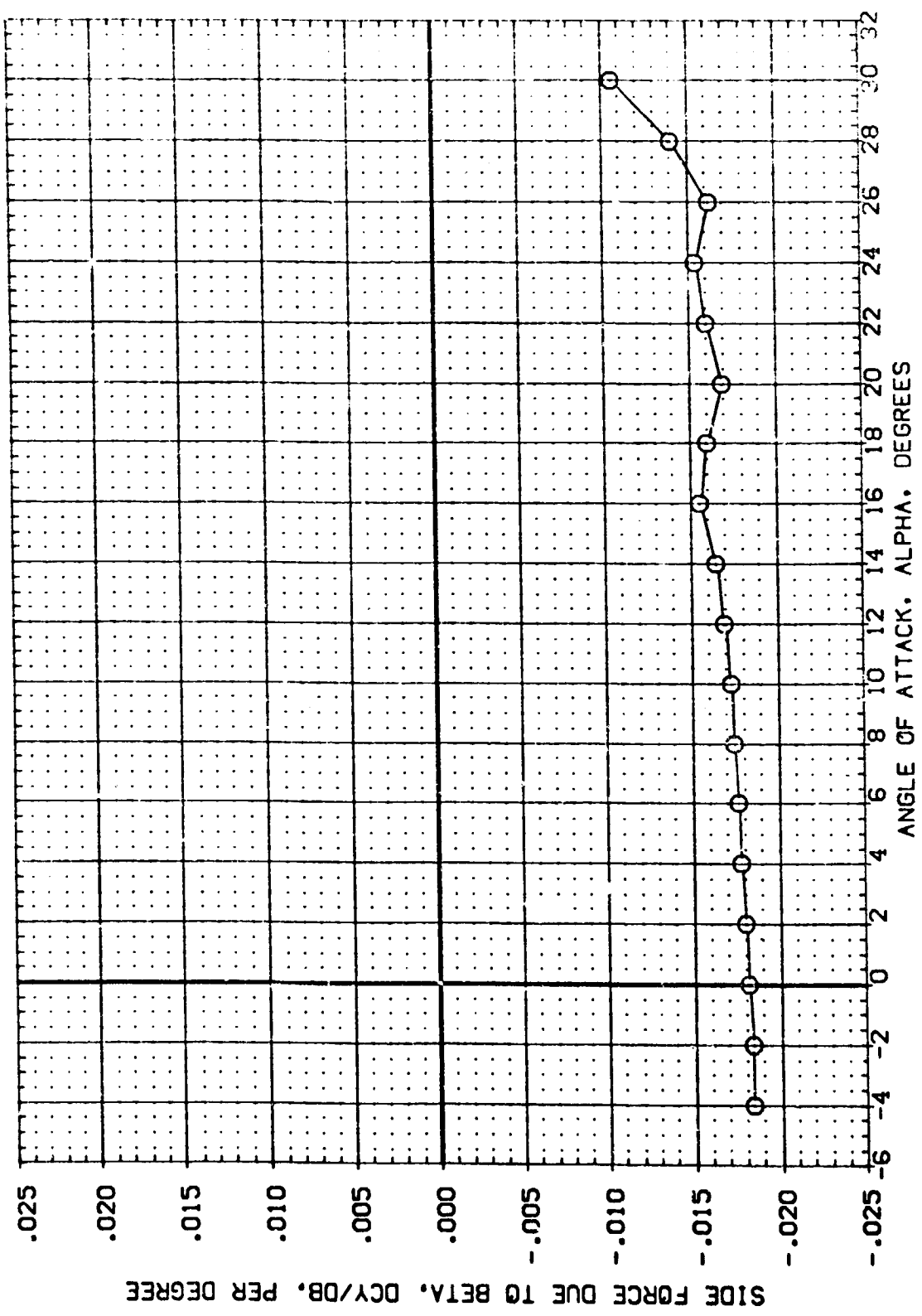


FIGURE 114 CONFIG 139B LAT.-DIR. DERIVATIVES (DELTA SPOBRK = 85 DEG.)

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|---------|---------|---------------------------|
| (ADP202) | 0A21B 819C7H3 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SO.FT. INCHES |
| (ADP203) | 0A21B 819C7H3 M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LRP 19.2299 INCHES |
| (ADP204) | 0A21B 819C7H3 M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BRP 37.9599 INCHES |
| (ADP205) | 0A21B 819C7H3 M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | YMRP 43.5974 INCHES |
| (ADP206) | 0A21B 819C7H3 M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | ZMRP .0000 INCHES |
| | | | | | | SCALE 16.2000 INCHES |
| | | | | | | SCALE .0405 INCHES |

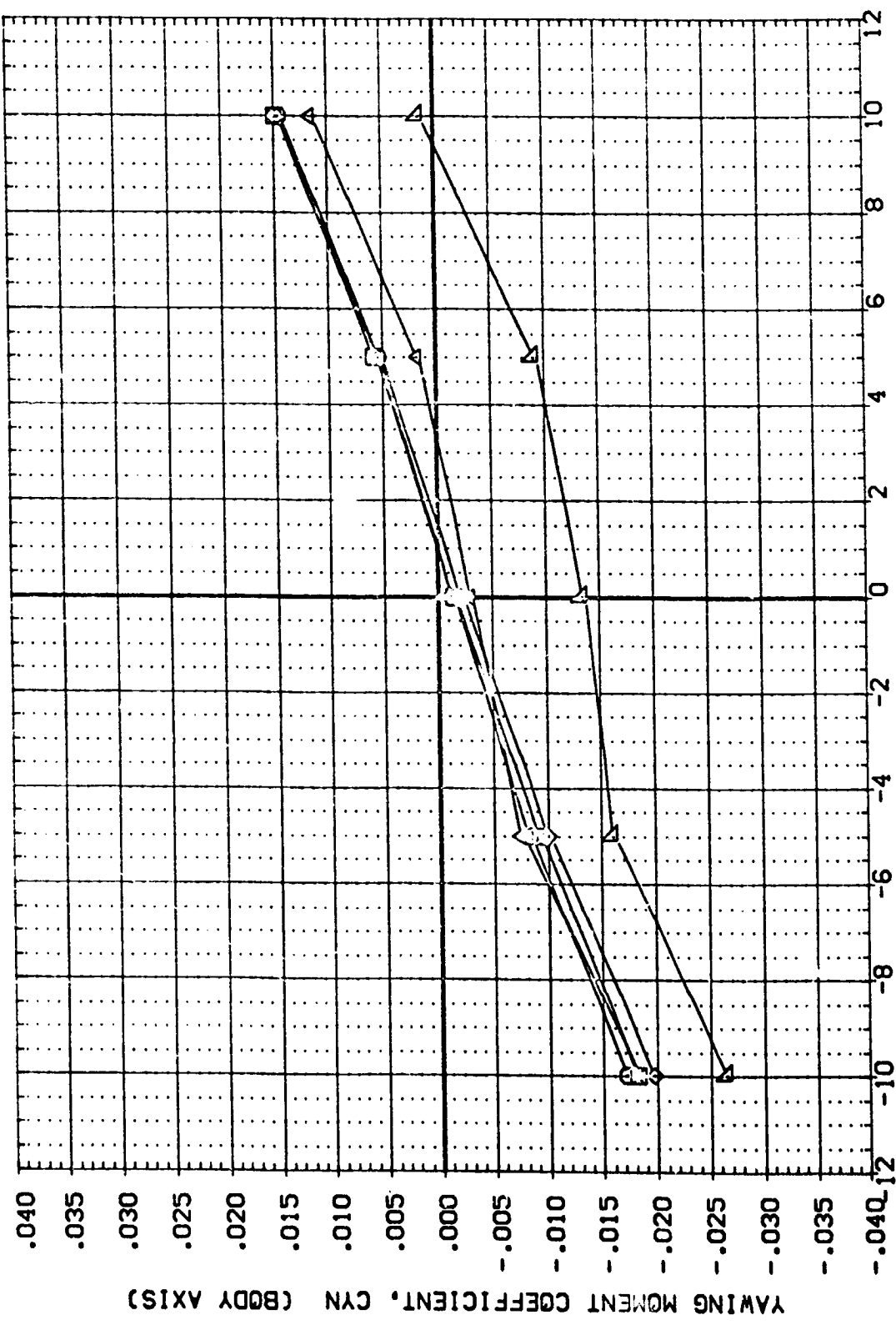


FIGURE 115 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H3) CANARD

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | BOFLAP | REFERENCE INFORMATION | | |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|---------|--------|
| (ADP202) | 0A218 B19C7H3 MAFS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF | 4.4119 | 50.FT. |
| (ADP203) | 0A218 B19C7H3 MAFS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF | 19.2299 | INCHES |
| (ADP204) | 0A218 B19C7H3 MAFS V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | E3REF | 37.9359 | INCHES |
| (ADP205) | 0A218 B19C7H3 MAFS V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XTRP | 43.5974 | INCHES |
| (ADP206) | 0A218 B19C7H3 MAFS V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YTRP | 16.0000 | INCHES |
| | | | | | | ZTRP | 16.2000 | INCHES |
| | | | | | | SCALE | .0405 | SCALE |

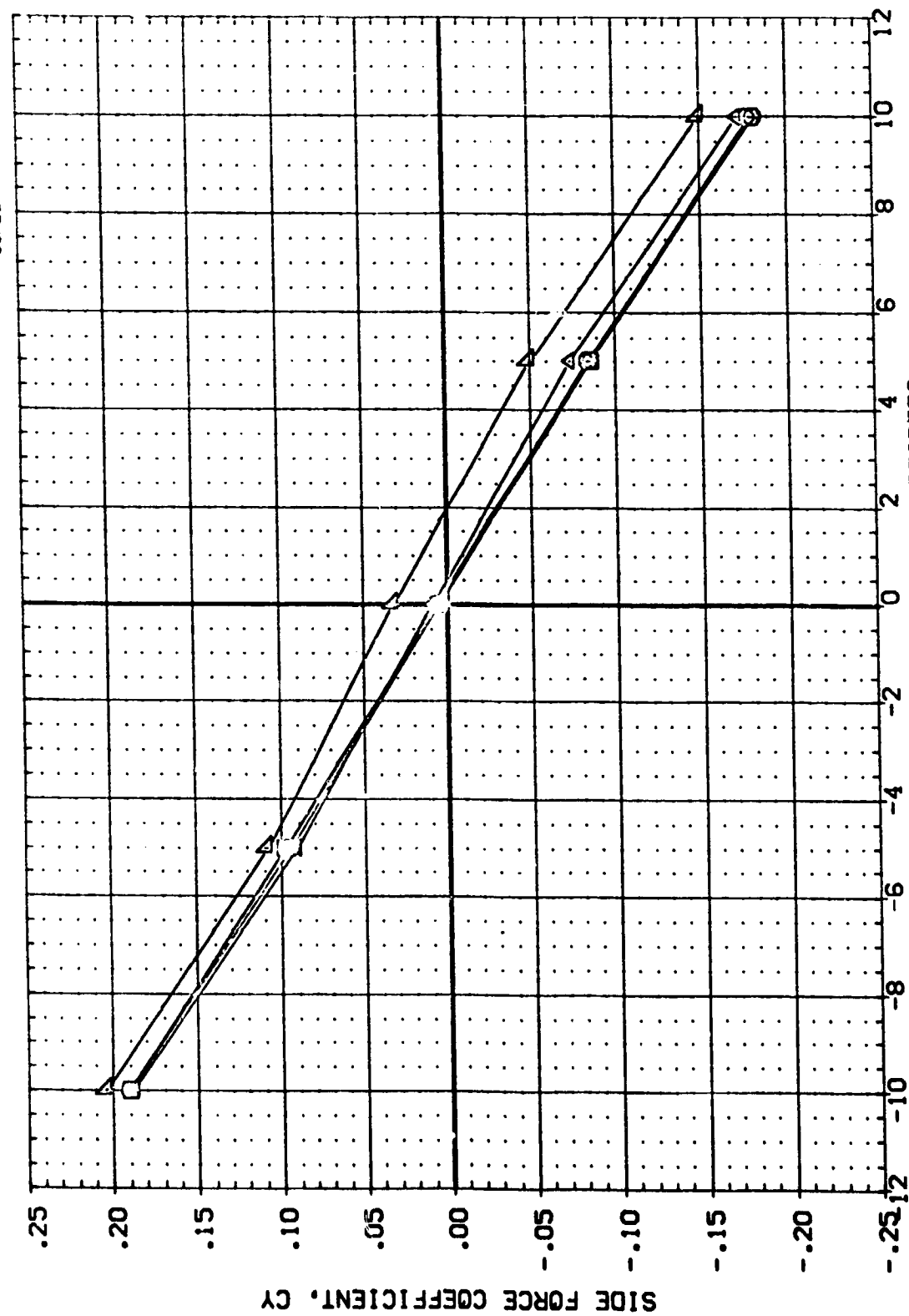


FIGURE 115 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H3) CANARD

| SYMBOL | MACH | PARAMETRIC VALUES | DATA SOURCE | REFERENCE INFORMATION |
|--------|------|--------------------------------------|-------------------------------------|--|
| 0 | .160 | BOFLAP AILRON RUDDER CANARD | ALPHA ADP202 ADP204 ADP206 | SREF LREF BREF XMRP YMRP ZMRP SCALE |
| | | -18.000 .000 .000 .000 | .000 .000 10.000 20.000 | 4.4119 19.2299 37.9359 43.5974 16.0000 16.2000 .0405 |
| | | ELEVON VTLINE SPDBAY | | SO.FT. INCHES INCHES INCHES INCHES INCHES SCALE |

YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYMBET, PER DEGREE

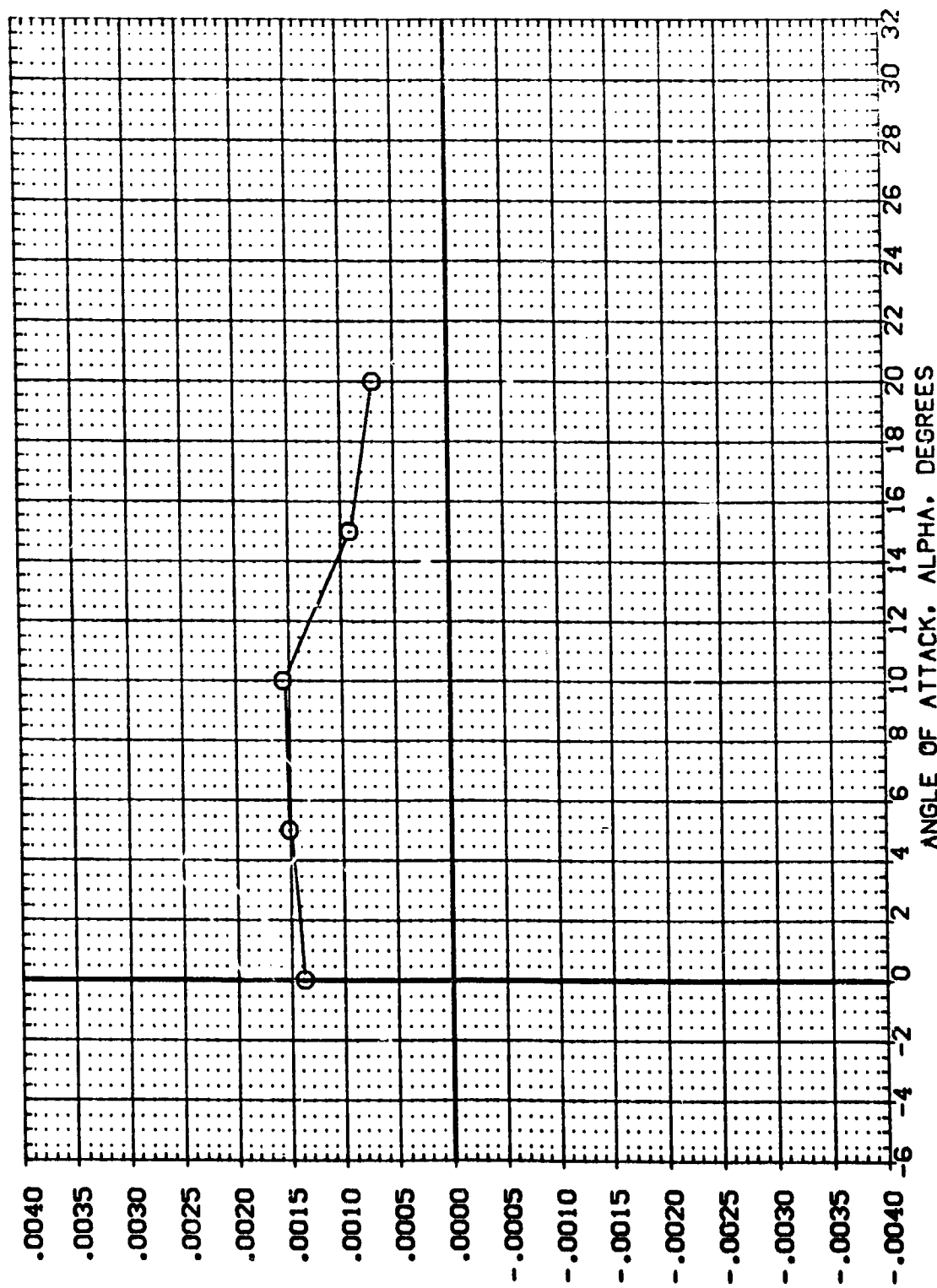


FIGURE 116 CONFIG 139B LAT.-DIR. DERIVATIVES WITH (H3) CANARD

(ADP202)

0A21B 819C7H3 M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | DATA SOURCE | | REFERENCE INFORMATION | | | | |
|--------|------|-------------------|--------|--------|-------------|---------|-----------------------|---------|---------|---------|--------|
| | | BOFLAP | ELEVON | VTLINE | ALPHA | DATASET | ALPHA | SREF | LREF | BREF | SO.FT. |
| O | .160 | .000 | .000 | .000 | .000 | ADP202 | 5.000 | 13.2299 | 37.9359 | 43.5974 | INCHES |
| | | .000 | .000 | .000 | 10.000 | ADP204 | 15.000 | 43.5974 | 16.2000 | 0000 | INCHES |
| | | .000 | .000 | .000 | 20.000 | ADP206 | | 16.2000 | 0000 | 0000 | INCHES |
| | | .000 | .000 | .000 | | | | 16.2000 | 0000 | 0000 | INCHES |

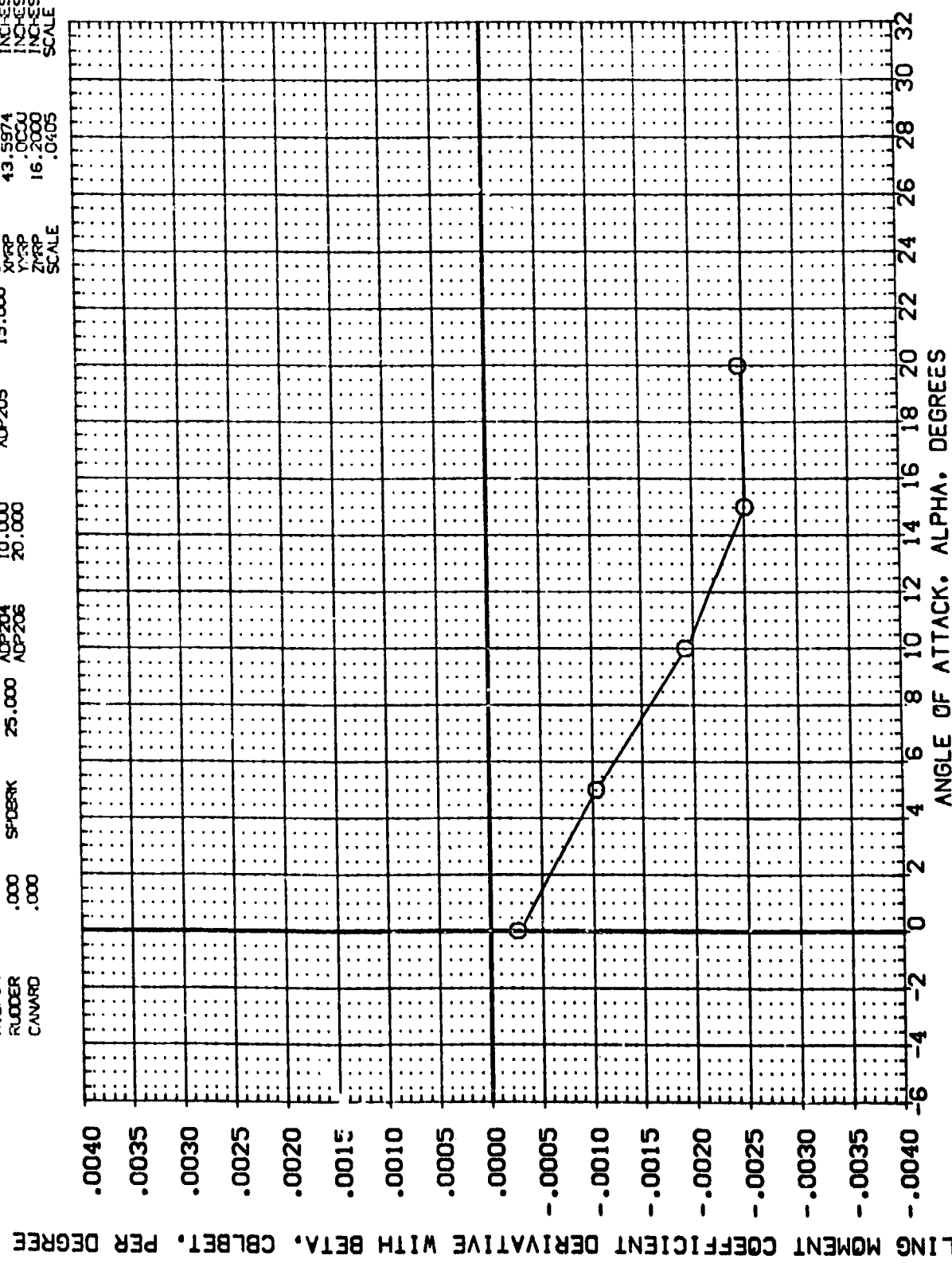


FIGURE 116 CONFIG 139B LAT.-DIR. DERIVATIVES WITH (H3) CANARD

(ADP202)

0A21B B19C7H3 M4F5 W107E23V7R6

| | | | | | | | | | | | |
|--------|------|---------|--------|--------|--------|---------------------------|-----------------------------------|------------------------------------|-----------------|--|---|
| SYMBOL | MACH | BOFLAP | AILRON | RUDDER | CANARD | PARAMETRIC VALUES | DATA SOURCE | DATASET | ALPHA | SREF | REFERENCE INFORMATION |
| O | .160 | -18.000 | .000 | .000 | .000 | ELEVON VTLINE SPDRK | ALPHA .000 10.000 20.000 | .000 ADP202 ADP204 ADP206 | 5.000 15.000 | LREF EREF XPRP YPRP ZPRP SCALE | 50.FT. INCHES INCHES INCHES INCHES INCHES SCALE |
| | | | | | | | | | | 4.4119 19.2298 37.9359 43.5974 .0000 16.2000 .0405 | |

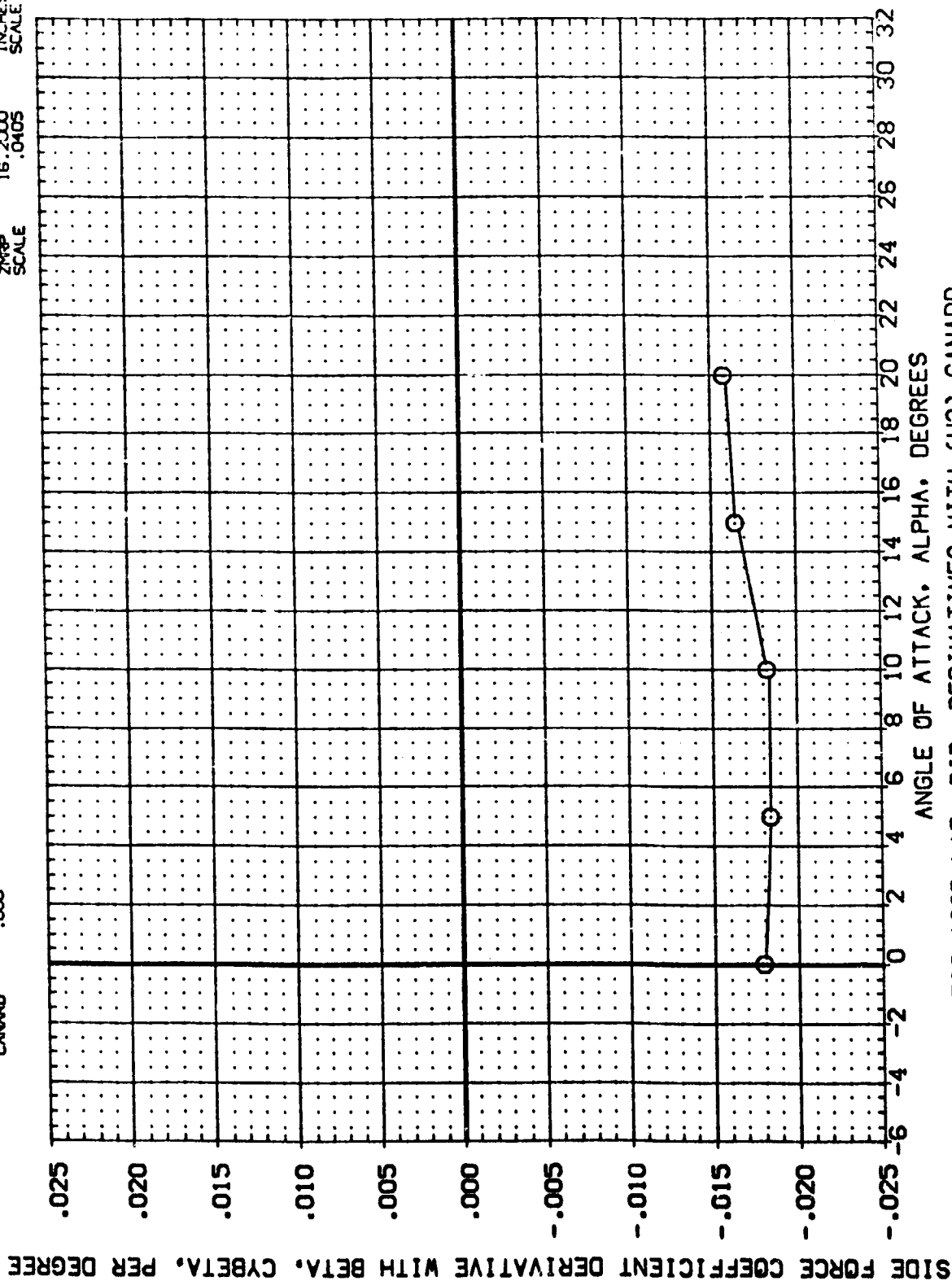


FIGURE 116 CONFIG 139B LAT.-DIR. DERIVATIVES WITH (H3) CANARD

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (ALP208) | 0A21B B19C7H9 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP209) | 0A21B B19C7H9 M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP210) | 0A21B B19C7H9 M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP211) | 0A21B B19C7H9 M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | YREF 43.5974 INCHES |
| (ADP212) | 0A21B B19C7H9 M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | ZREF .0000 INCHES |
| | | | | | | SCALE 16.2000 INCHES |

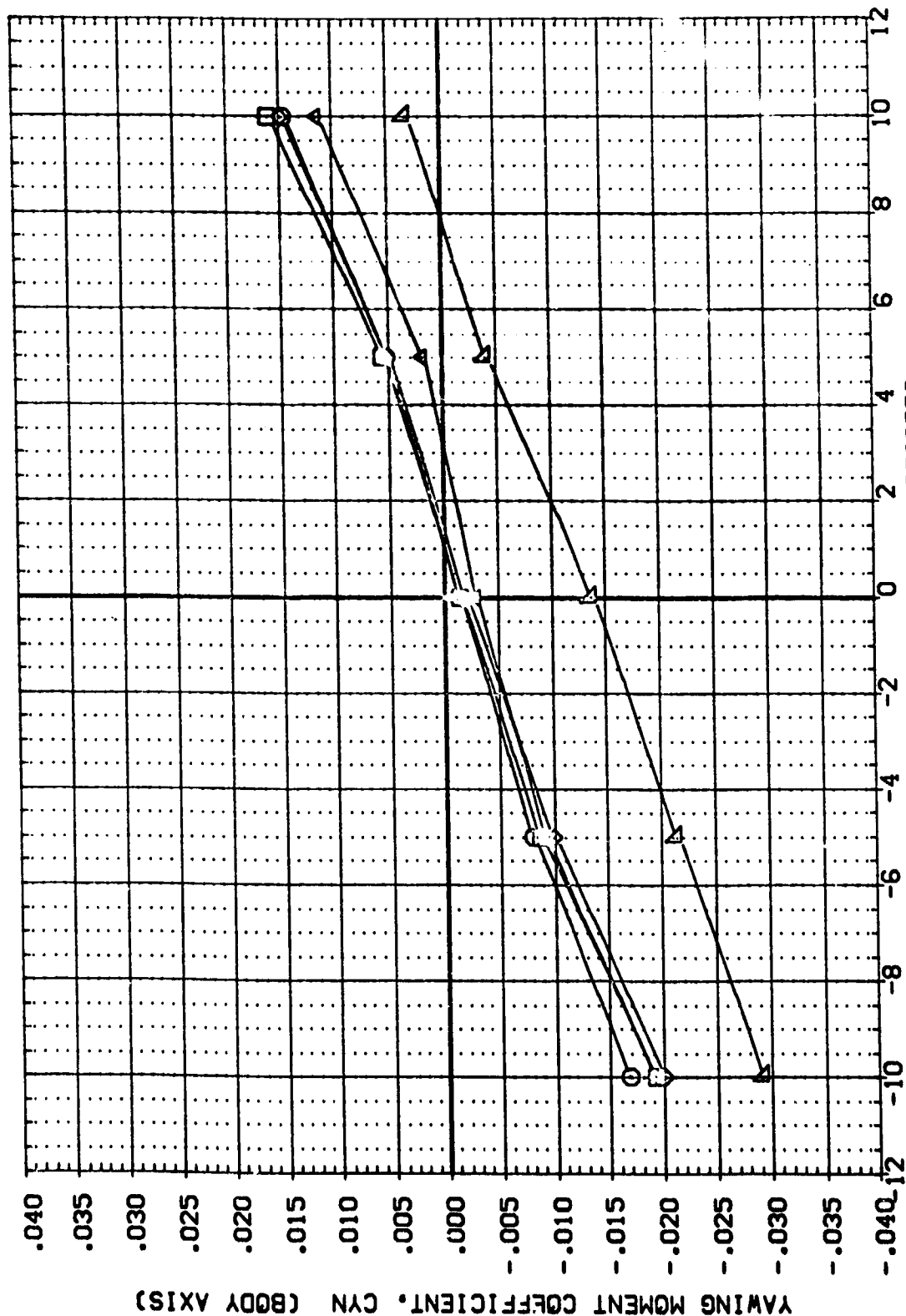


FIGURE 117 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H9) CANARD
 (A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRK | BDFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP208) | 0A21B 819C7H9 MAF5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SO.FT. |
| (ADP209) | 0A21B 819C7H9 MAF5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2298 INCHES |
| (ADP210) | 0A21B 819C7H9 MAF5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9559 INCHES |
| (ADP211) | 0A21B 819C7H9 MAF5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XMRP 43.5974 INCHES |
| (ADP212) | 0A21B 819C7H9 MAF5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

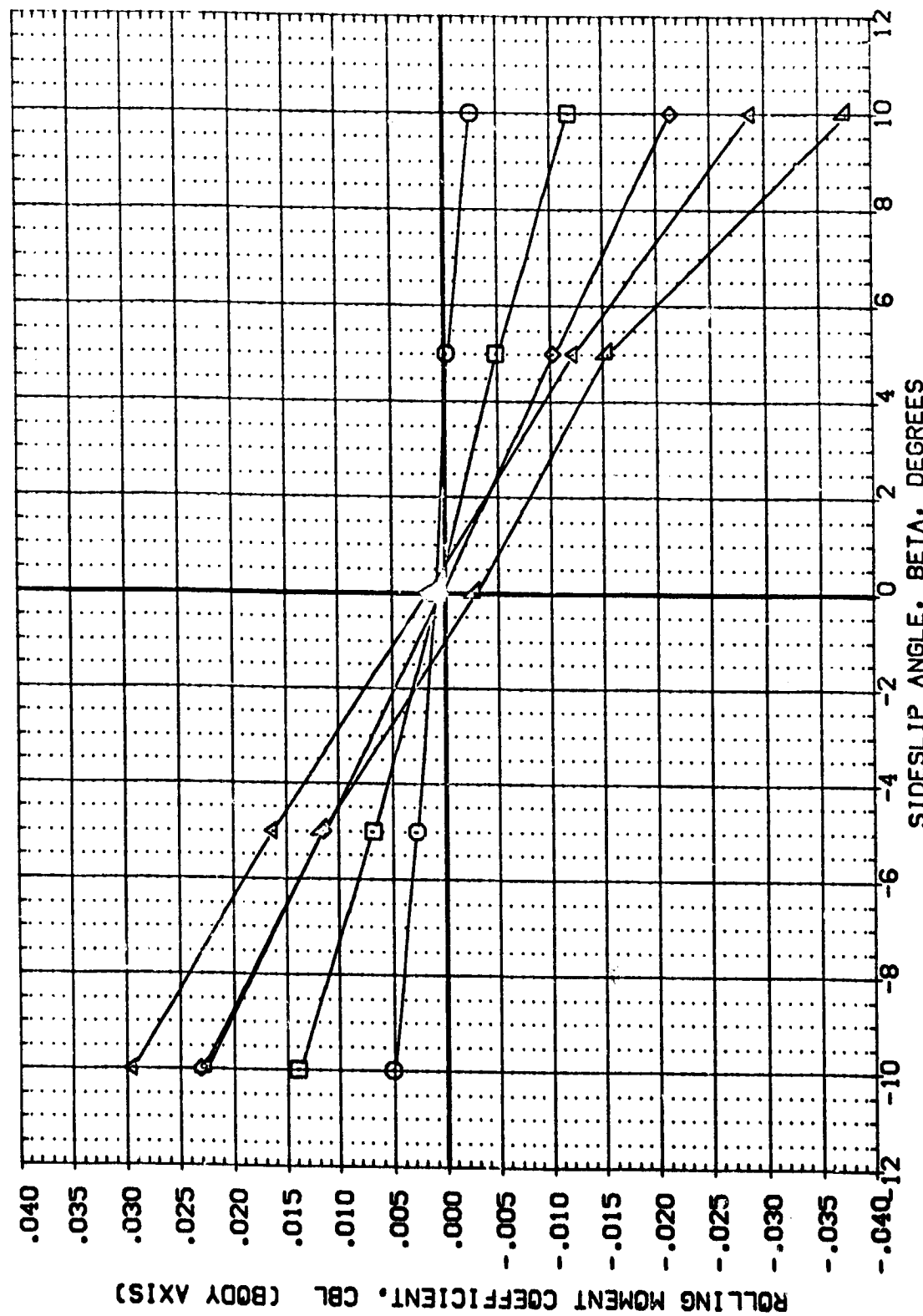


FIGURE 117 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H9) CANARD

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|--------|--------|--------|---------|-----------------------|
| (ADP208) | 0A21B B1SC7H9 MAF5 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP208) | 0A21B B1SC7H9 MAF5 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2298 INCHES |
| (ADP210) | 0A21B B1SC7H9 MAF5 | 10.000 | .000 | 25.000 | -18.000 | SREF 37.9559 INCHES |
| (ADP211) | 0A21B B1SC7H9 MAF5 | 15.000 | .000 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| (ADP212) | 0A21B B1SC7H9 MAF5 | 20.000 | .000 | 25.000 | -18.000 | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

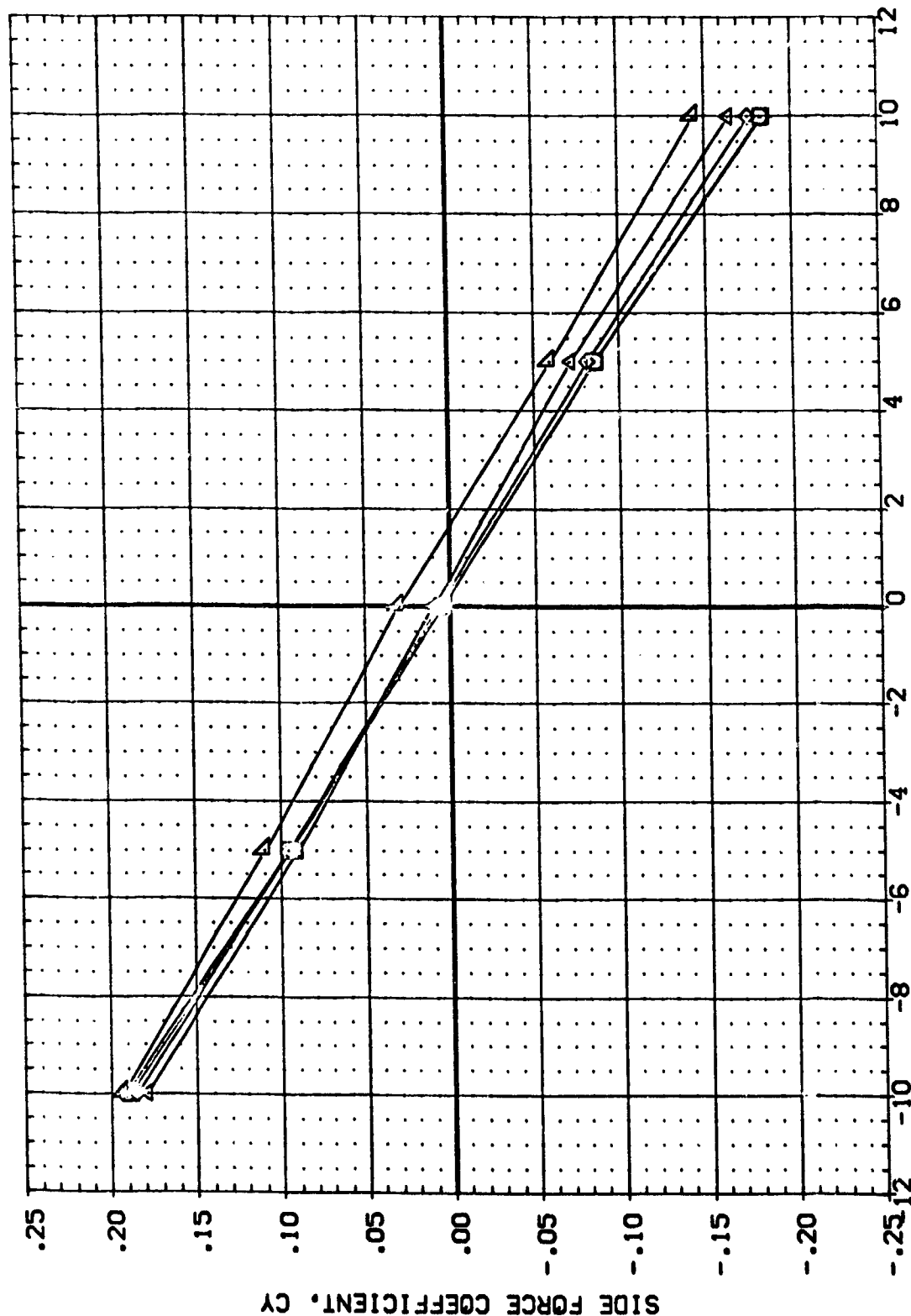


FIGURE 117 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H9) CANARD
 $C_{AJMACH} = .16$

(ADP208)

0A218 B19C7H9 M4F5 W107E23V7R6

| | | | | |
|--------|------|---------------------------------------|-------------------------------------|--|
| SYMBOL | MACH | PARAMETRIC VALUES | DATA SOURCE | REFERENCE INFORMATION |
| O | .160 | BOFLAP AILERON RUDDER CANARD | ALPHA ADP208 ADP210 ADP212 | SREF LREF BREF XREF YREF ZREF SCALE |
| | | -18.000 .000 .000 .000 | ALPHA ADP208 ADP210 ADP212 | 4.4119 19.2299 37.9359 43.5574 .0000 16.2000 .0405 |
| | | ELEVON VTLINE SPDRK | | SQ.FT. INCHES INCHES INCHES INCHES INCHES SCALE |
| | | | | |

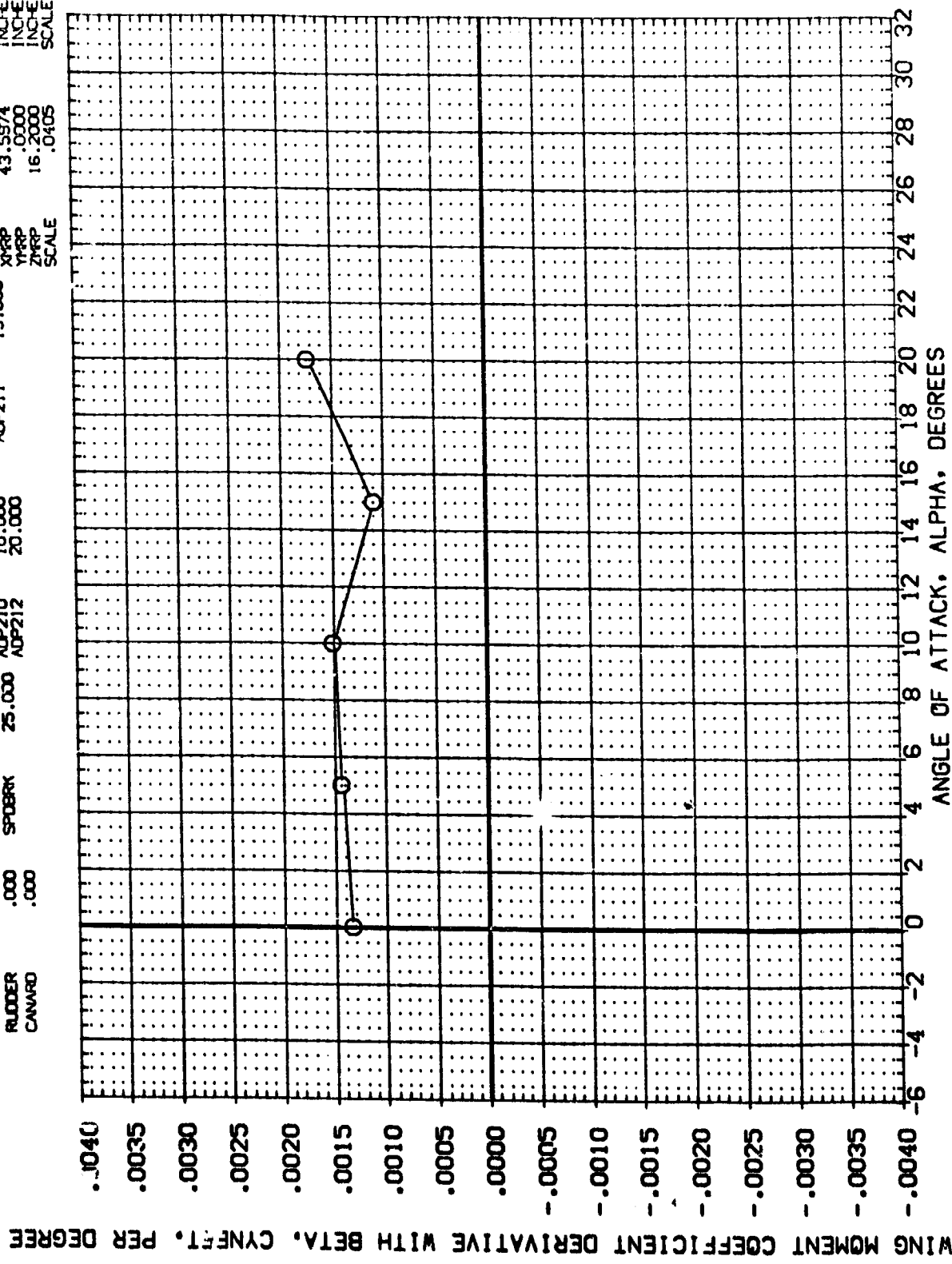


FIGURE 118 CONFIG 139B LAT.-DIR. DERIVATIVES #1TH (H9) CANARD



(ADP208)

0A21B B19C7H9 M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | DATASET | | ALPHA | | SREF | | REFERENCE INFORMATION | | | |
|--------|------|-------------------|--------|--------|--------|-------------|--------|---------|--|--------|--|-------|--|-----------------------|--------|--|--|
| | | BOFLAP | ELEVON | VTLINE | SPDERK | ALPHA | | ADP208 | | 5.000 | | UREF | | 4.4119 | SQ.FT. | | |
| O | .160 | AIRLON | .000 | .000 | .000 | .000 | .000 | ADP209 | | 15.000 | | BREF | | 19.2298 | INCHES | | |
| | | RUDER | .000 | .000 | .000 | 10.000 | 10.000 | ADP211 | | | | XMRP | | 37.9359 | INCHES | | |
| | | CANARD | .000 | .000 | .000 | 20.000 | 20.000 | | | | | YMRP | | 43.5574 | INCHES | | |
| | | | | | | | | | | | | ZMRP | | .0000 | INCHES | | |
| | | | | | | | | | | | | SCALE | | 16.2000 | INCHES | | |
| | | | | | | | | | | | | | | .0405 | SCALE | | |

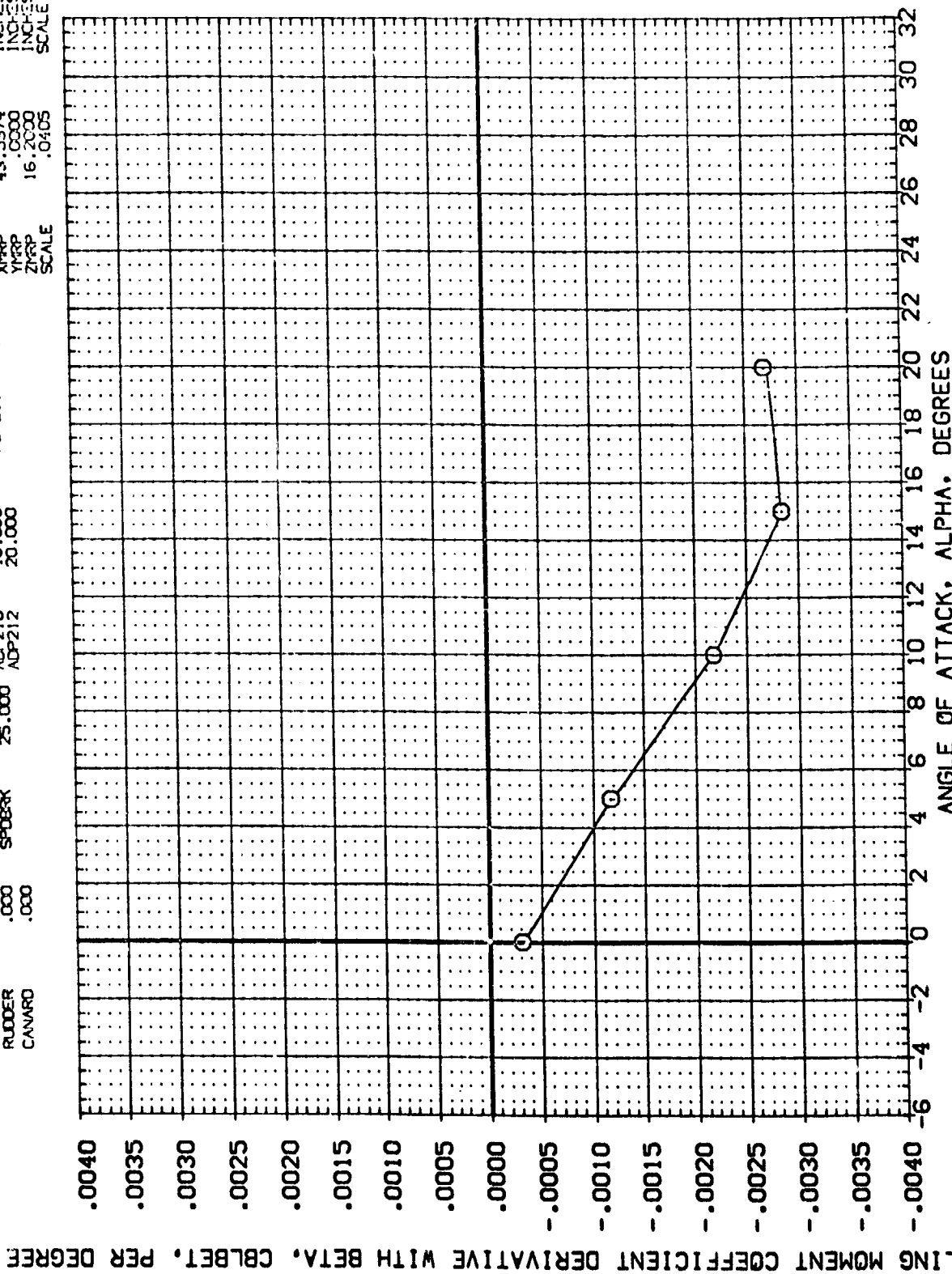


FIGURE 118 CONFIG 139B LAT.-DIR. DERIVATIVES WITH (H9) CANARD



(ADP208)

0A218 B19C7H9 M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | REFERENCE INFORMATION | | | | |
|--------|------|-------------------|--------|---------|--------|-------------|---------|-----------------------|---------|---------|---------|---------|
| | | BOFLAP | ELEVON | VTLLINC | SPOBRK | ALPHA | DATASET | SREF | LREF | INCHES | INCHES | INCHES |
| O | .160 | -18.000 | .000 | .000 | .000 | .000 | ADP208 | 5.000 | 19.2259 | 37.9359 | 43.5974 | 16.2000 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | RUDDER | | | | 10.000 | ADP210 | 15.000 | 43.5974 | INCHES | INCHES | INCHES |
| | | CANARD | | | | 20.000 | ADP212 | SCALE | 16.2000 | INCHES | INCHES | SCALE |

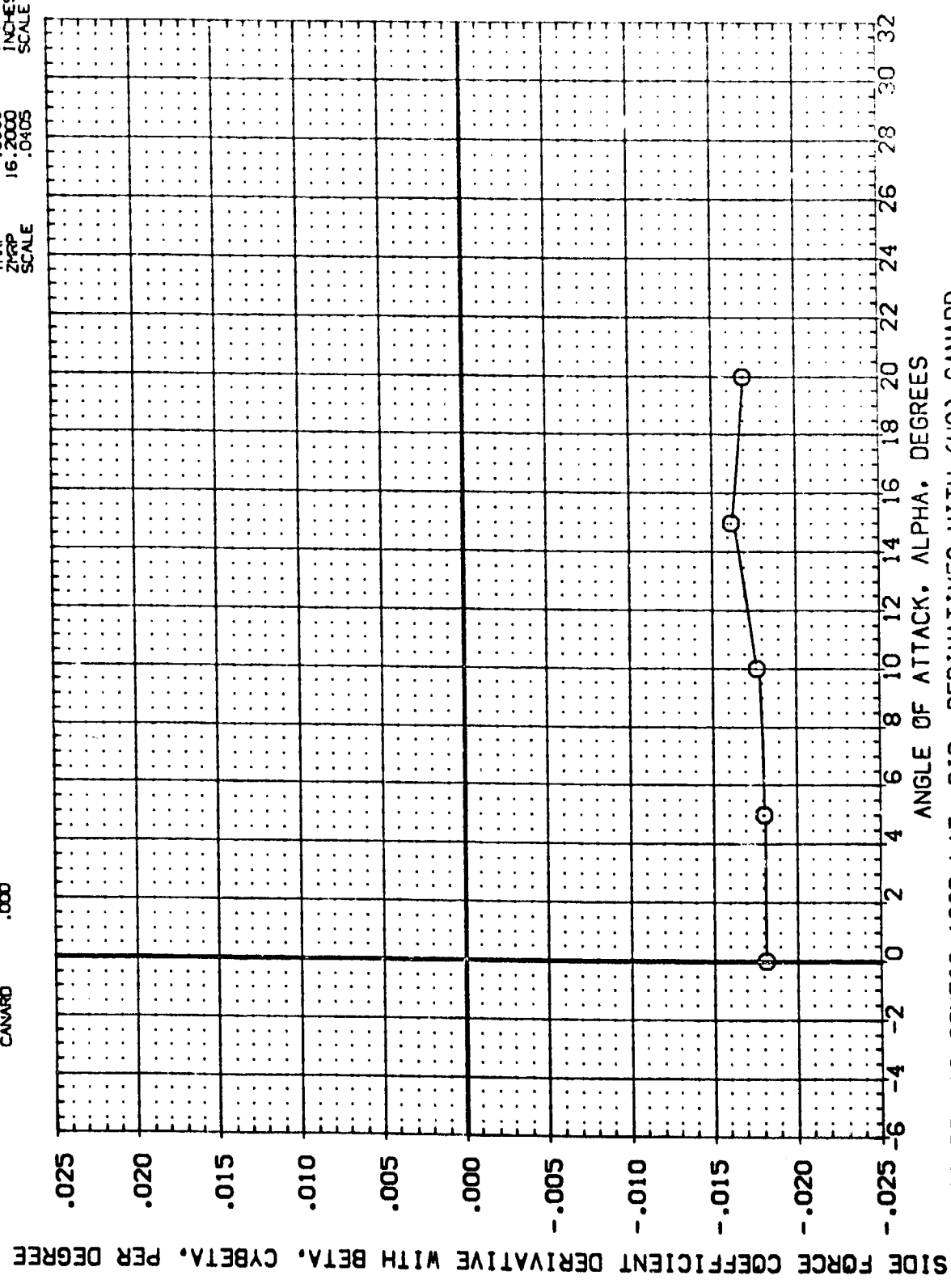


FIGURE 118 CONFIG 139B LAT.-DIR. DERIVATIVES WITH (H9) CANARD

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|---------------------------|-------|--------|--------|---------|---------------------------|
| (ADP214) | 0A21B B1SC7H23M4F5 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SC.FT. INCHES |
| (ADP215) | 0A21B B1SC7H23M4F5 | .000 | .000 | 25.000 | -18.000 | LREF 13.2223 INCHES |
| (ADP216) | 0A21B B1SC7H23M4F5 | .000 | .000 | 25.000 | -18.000 | EREF 37.9359 INCHES |
| (ADP217) | 0A21B B1SC7H23M4F5 | .000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ADP218) | 0A21B B1SC7H23M4F5 | .000 | .000 | 25.000 | -18.000 | YREF 16.2020 INCHES |
| | | | | | | ZREF 16.2020 INCHES |
| | | | | | | SCALE .0105 |

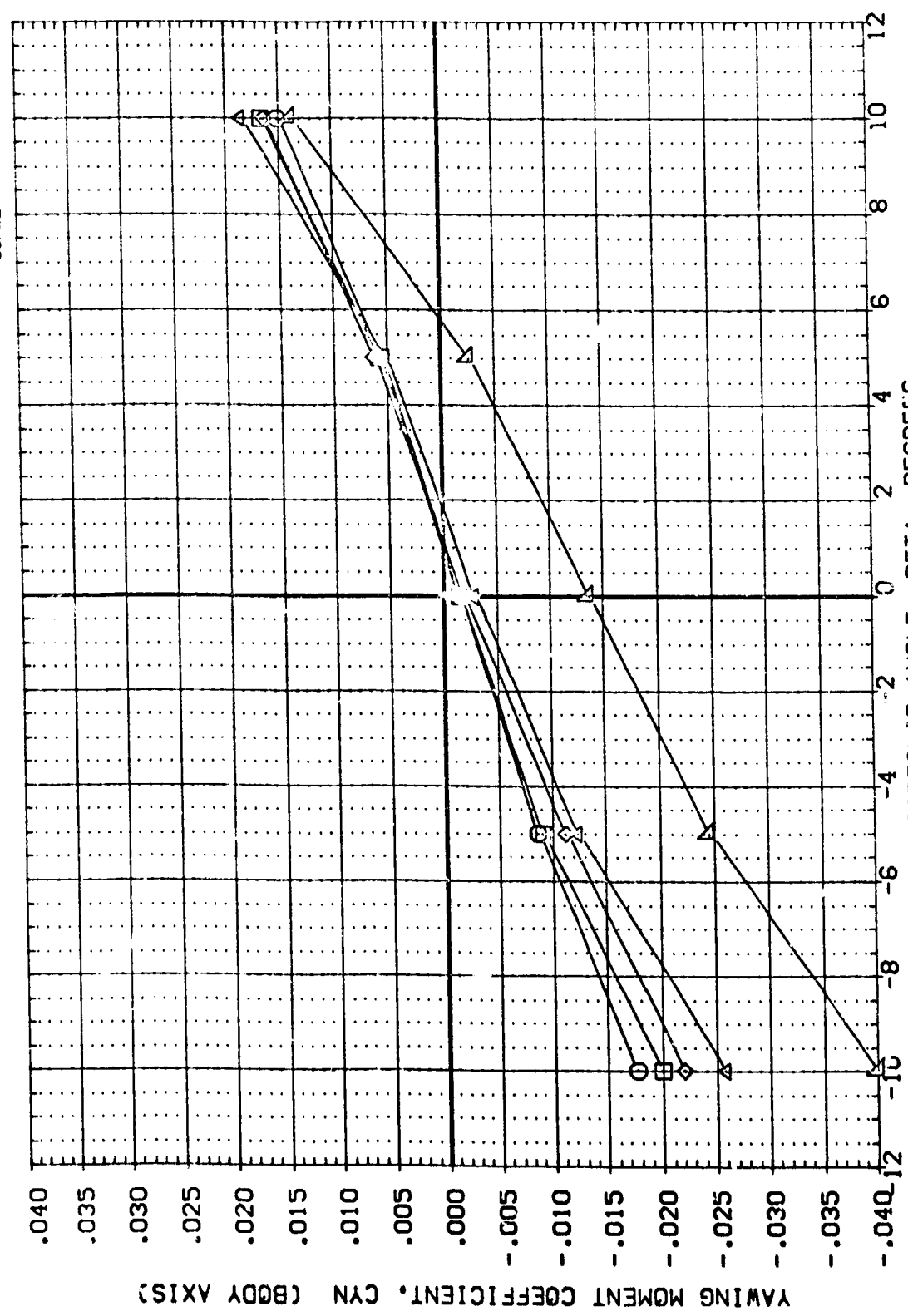


FIGURE 119 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H23) CANARD

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDER | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|-------|--------|---------|-----------------------|
| (ADP214) | DA21B B19C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP215) | DA21B B19C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP216) | DA21B B19C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LOREF 37.9359 INCHES |
| (ADP217) | DA21B B19C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ADP218) | DA21B B19C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | YREF 16.2030 INCHES |
| | | 20.000 | .000 | 25.000 | -18.000 | ZREF 16.2030 INCHES |
| | | | | | | SCALE .0005 |

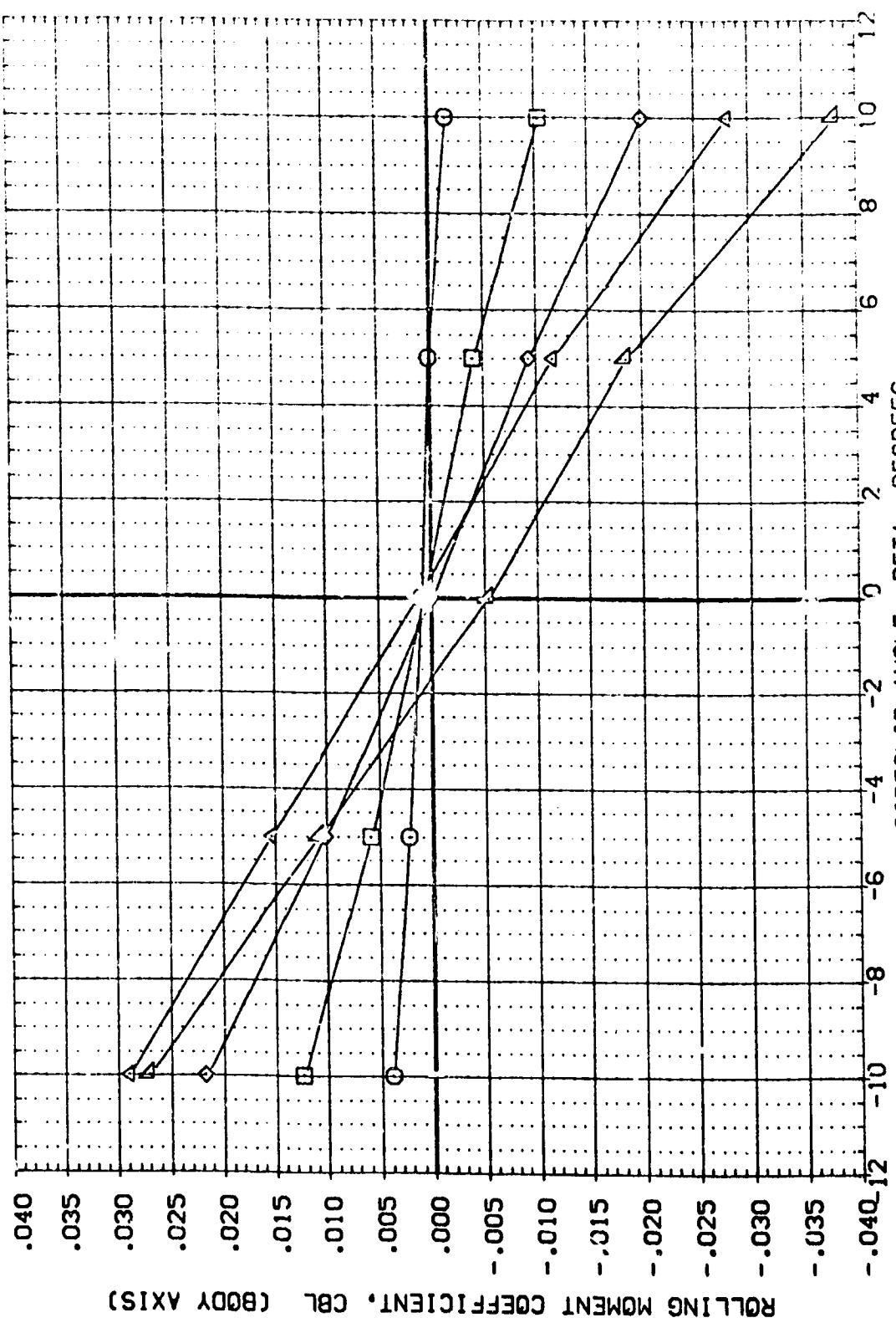


FIGURE 119 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H23) CANARD

(MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP214) | 0A21B B19C7H23M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP215) | 0A21B B19C7H23M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP216) | 0A21B B19C7H23M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9339 INCHES |
| (ADP217) | 0A21B B19C7H23M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XREF 43.5374 INCHES |
| (ADP218) | 0A21B B19C7H23M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

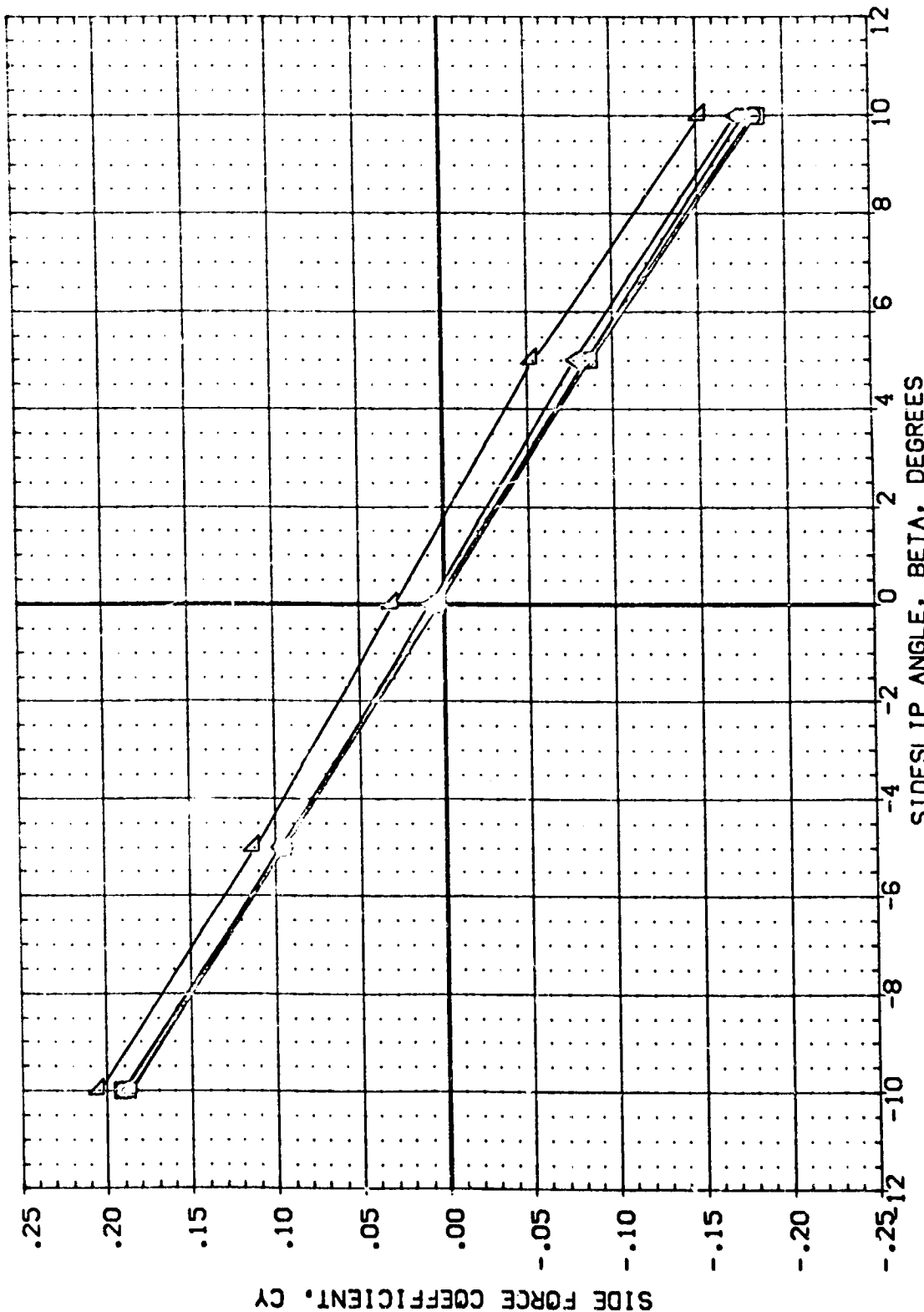


FIGURE 119 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH (H23) CANARD

$Mach = 0.16$



(ADP214)

0A21B B19C7H23M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | DATASET | | ALPHA | | SREF | | REFERENCE INFORMATION | |
|--------|------|-------------------|--------|---------|-------|-------------|-------|---------|--------|-------|--------|------|------|-----------------------|--------|
| | | BOFLAP | ELEVON | VTILINC | SPDRK | ALPHA | ALPHA | ADP214 | ADP215 | 5.000 | 15.000 | LREF | BREF | 4.4119 | SO.FT. |
| ○ | .160 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | | | | 19.2299 | INCHES |
| | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | | | | 37.9359 | INCHES |
| | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | | | | 43.5374 | INCHES |
| | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | | | | .0000 | INCHES |
| | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | | | | 16.2000 | INCHES |
| | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | | | | | .0105 | SCALE |

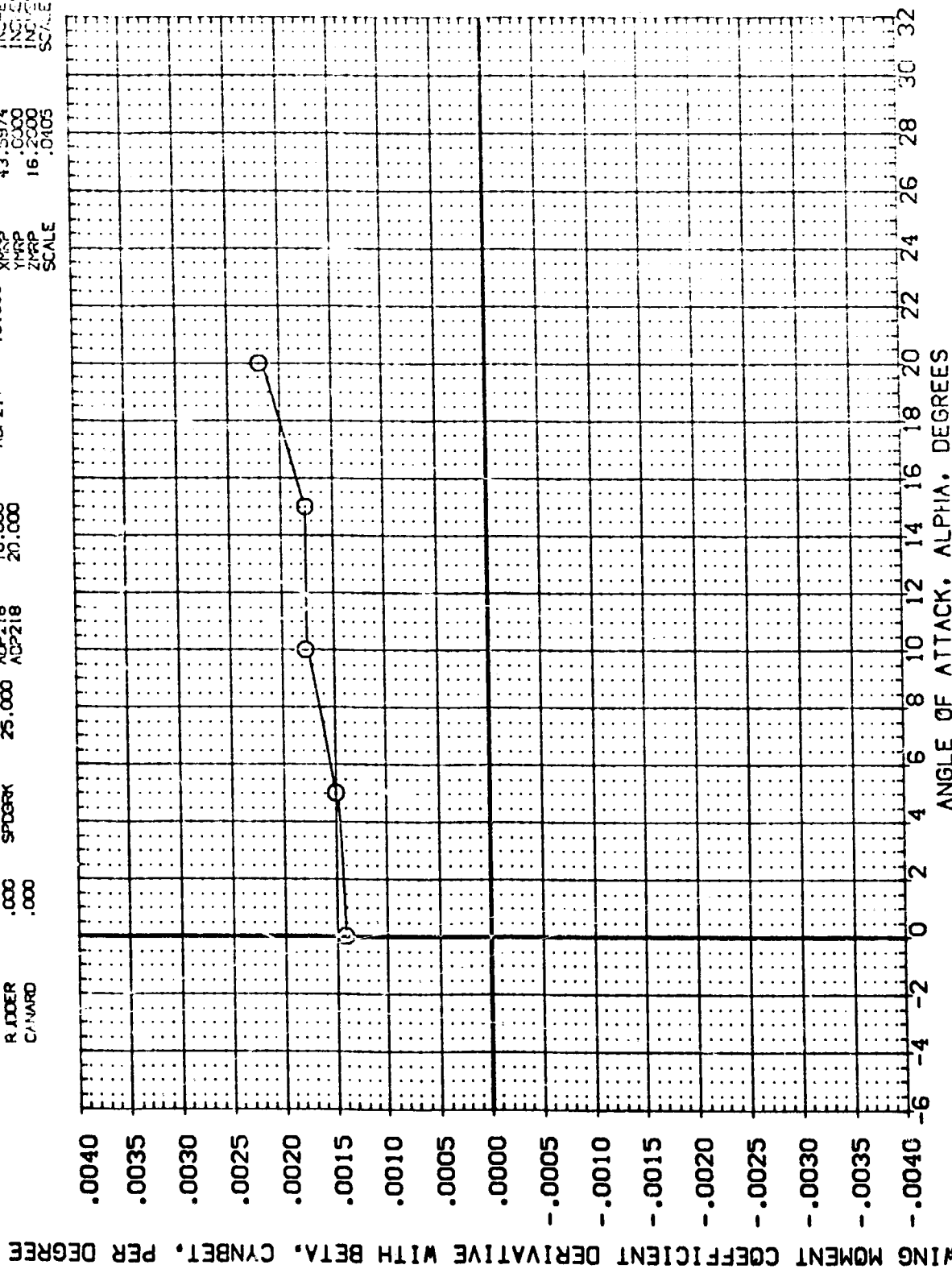


FIGURE 120 CONFIG 139B LAT.-DIR. DERIVATIVES WITH (H23) CANARD



(ADP214)

0A21B B19C7H23M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | REFERENCE INFORMATION | | | |
|--------|------|-------------------|--------|--------|--------|-------------|---------|-----------------------|------|---------|--------|
| | | BOFLAP | ELEVON | VTLINE | SPOCKY | ALPHA | DATASET | ALPHA | SREF | INC-ES | SCALE |
| 0 | .160 | -18.000 | .000 | .000 | .000 | .000 | ADP214 | 5.000 | LREF | 4.4119 | SQ.FT. |
| | | A1LRON | .000 | .000 | .000 | 10.000 | ADP215 | 15.000 | BREF | 18.2298 | INCHES |
| | | RUDER | .000 | .000 | .000 | 20.000 | ADP217 | | XGRP | 37.9359 | INCHES |
| | | CANARD | .000 | .000 | .000 | | | | YGRP | 43.9374 | INCHES |
| | | | | | | | | | ZGRP | 16.2000 | INCHES |
| | | | | | | | | | | | SCALE |

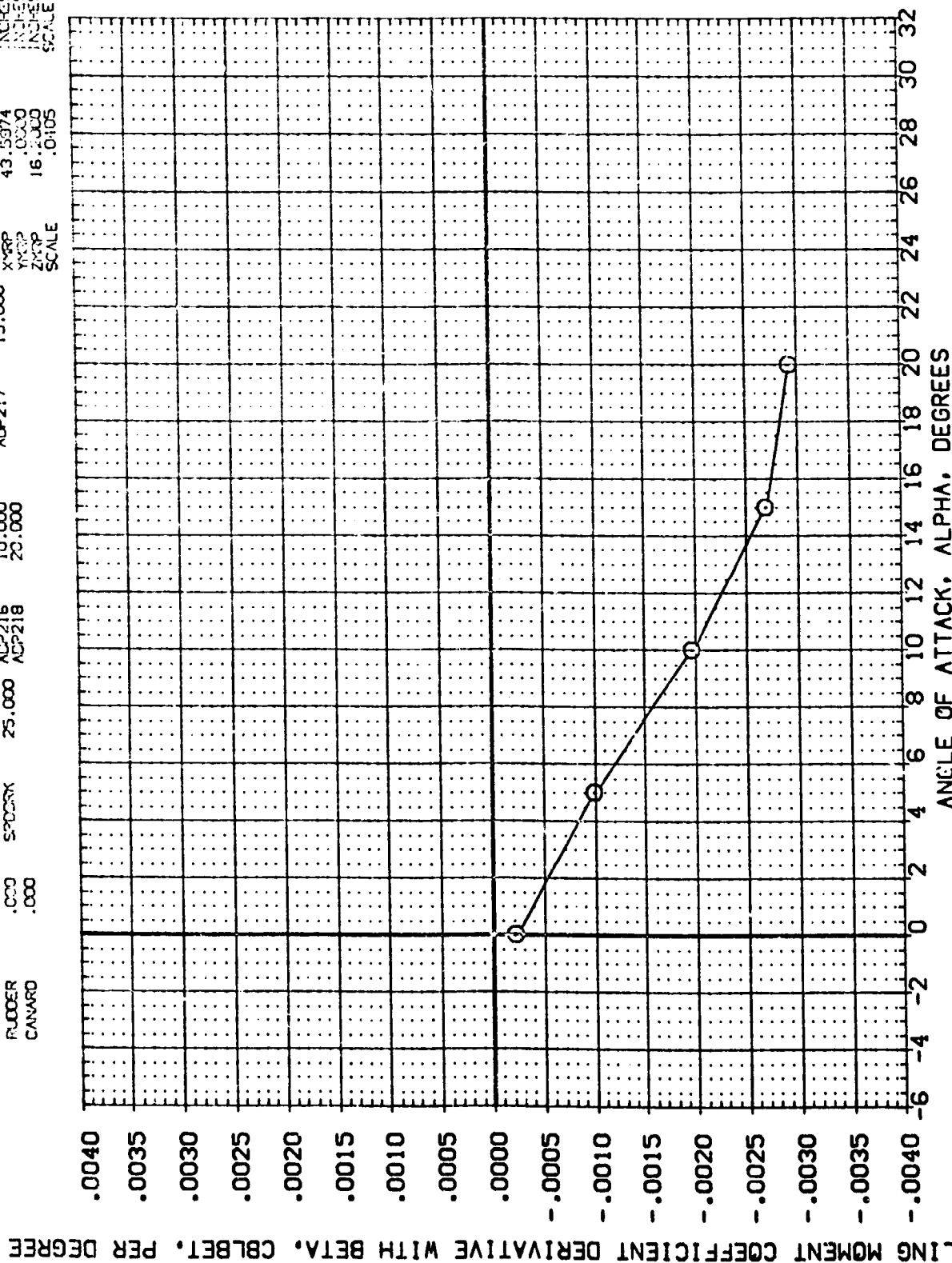


FIGURE 120 CONFIG 139B LAT.-UIR. DERIVATIVES WITH (H23) CANARD

(ADP214)

0A21B B19C7H23M4F5 W107E23V7R6

| SYMBOL | MACH | BOFLAP | AILRON | RUDDER | CANARD | PARAMETRIC VALUES | DATA SOURCE | REFERENCE INFORMATION |
|--------|------|---------|--------|--------|--------|---------------------------|-------------------------------------|---|
| 0 | .160 | | | | | ELEVON VTLINC SPDRK | ALPHA ADP214 ADP216 ADP218 | SREF LREF SREF XREF YREF ZREF SCALE |
| | | -18.000 | .000 | .000 | .000 | | .000 25.000 20.000 | 4.4119 19.2299 37.9359 43.5974 16.0000 16.0000 16.0000 SCALE |

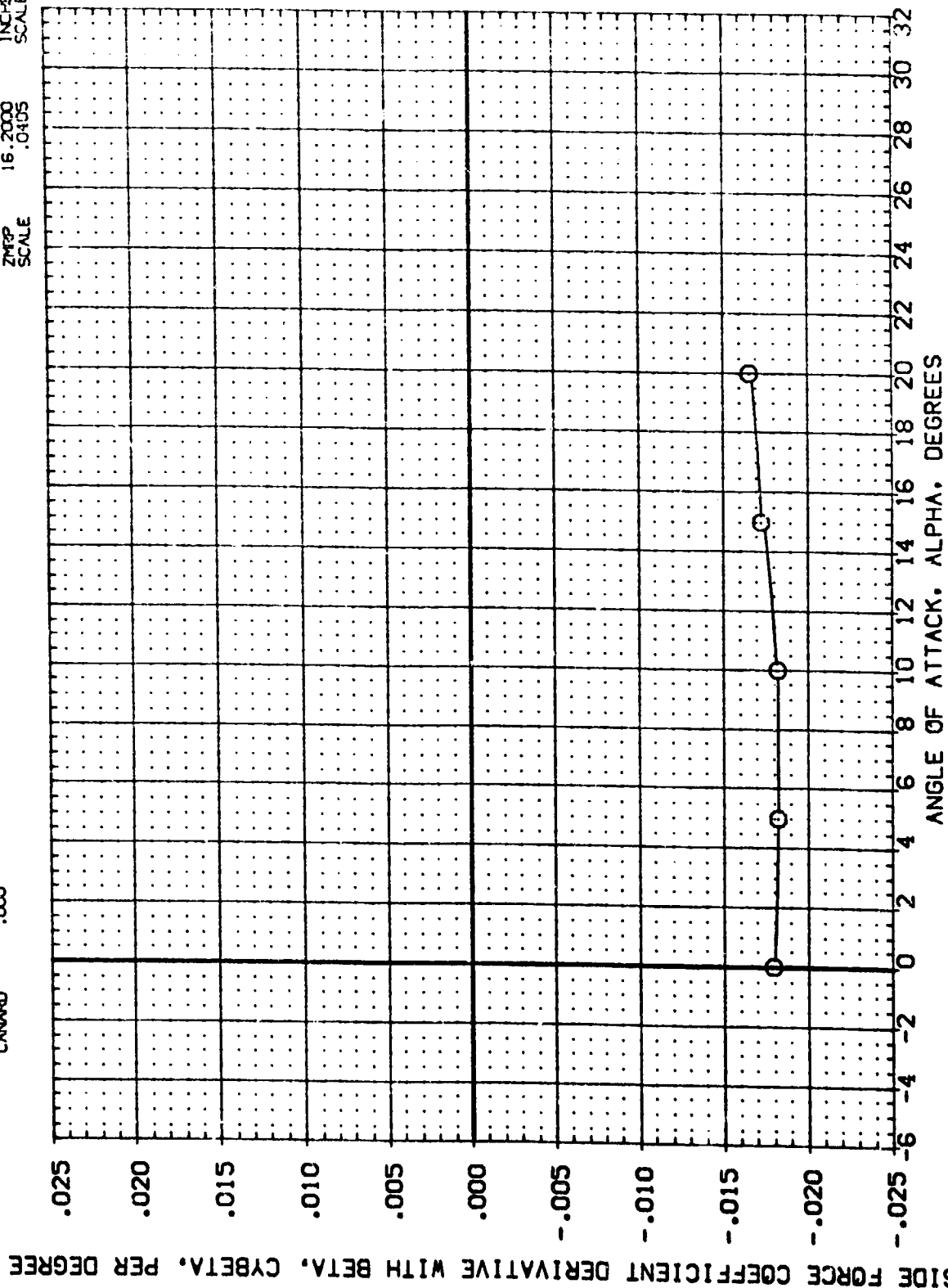


FIGURE 120 CONFIG 139B LAT.-DIR. DERIVATIVES WITH (H23) CANARD

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDER | SPDRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|-------|-------|--------|---------|-----------------------|
| (ADP263) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50. FT. |
| (ADP264) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP265) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP266) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ADP267) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | YREF .0000 INCHES |
| | | .000 | .000 | 25.000 | -18.000 | ZREF 16.2000 INCHES |
| | | .000 | .000 | 25.000 | -18.000 | SCALE .0105 |

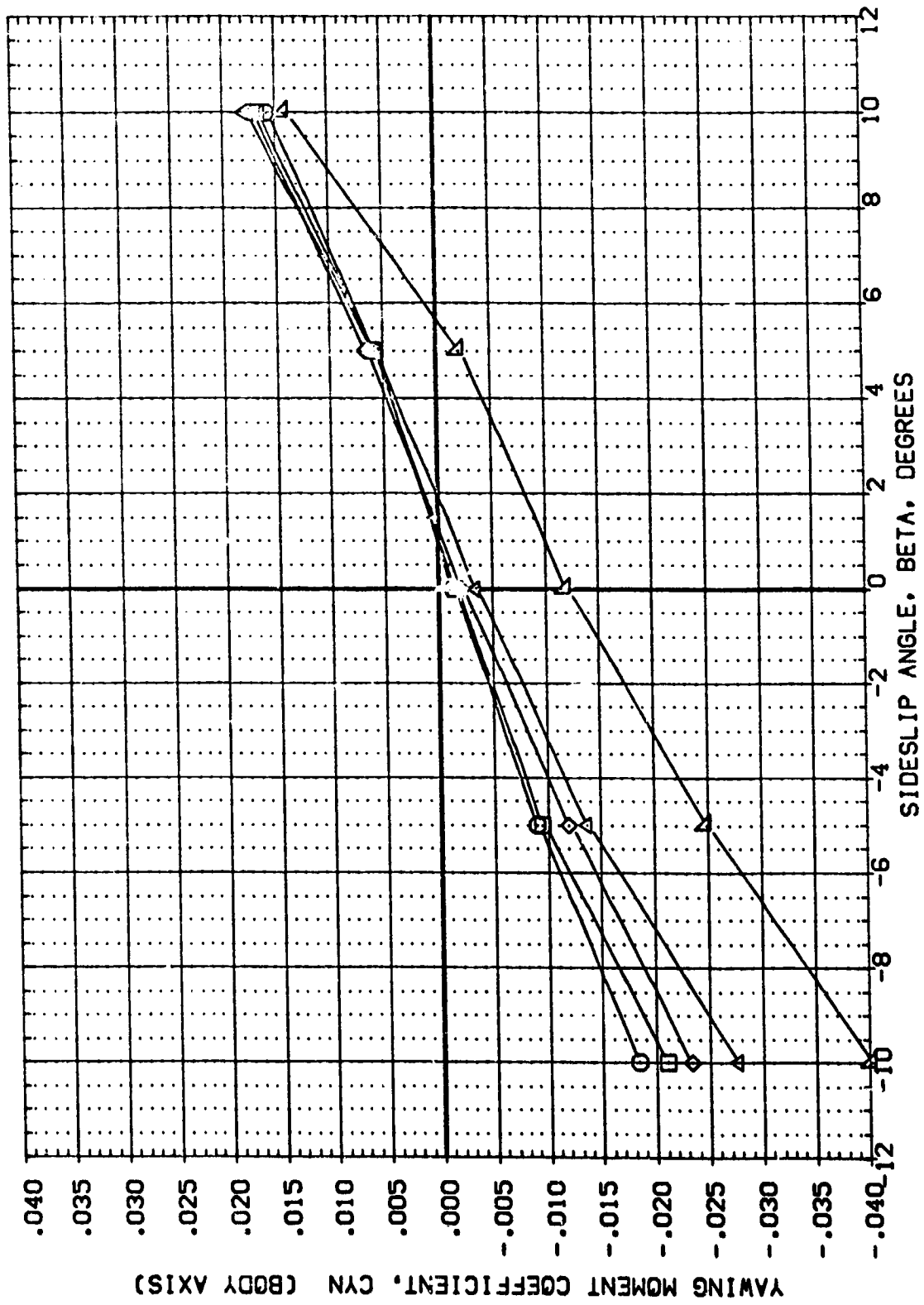


FIGURE 121 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE WITH CANARDH23
 (A)MACH = .16
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| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRBK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP263) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP264) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP265) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP266) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ADP267) | 0A21B B21C7H23M4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | YREF .0000 INCHES |
| | | 20.000 | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0105 |

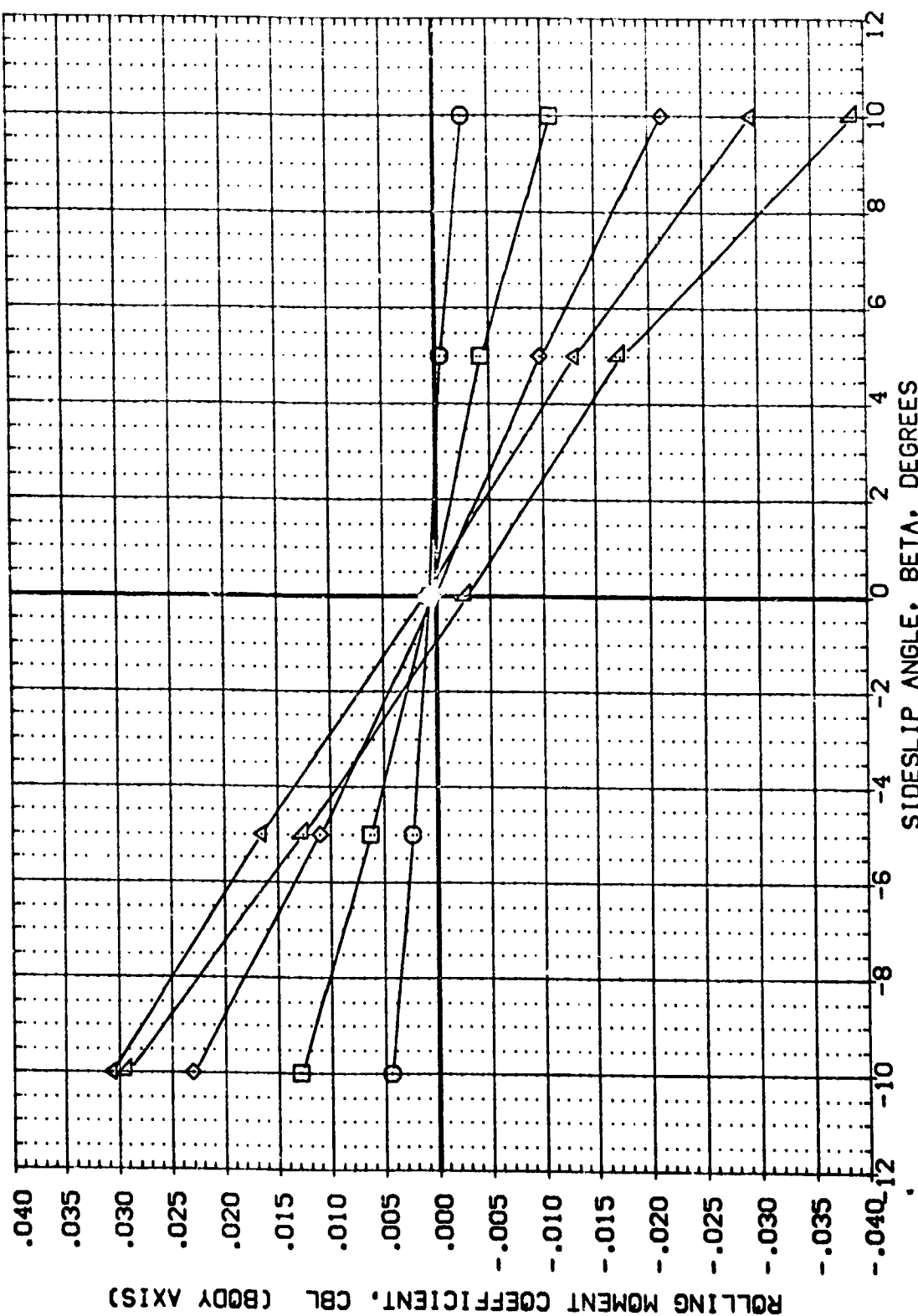


FIGURE 121 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE WITH CANARDH23

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRBK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP263) | 0A21B B21C7H23M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP264) | 0A21B B21C7H23M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP265) | 0A21B B21C7H23M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP266) | 0A21B B21C7H23M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | AYRP 43.5374 INCHES |
| (ADP267) | 0A21B B21C7H23M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | ZYRP .0000 INCHES |
| | | | | | | SCALE 16.2000 INCHES |
| | | | | | | SCALE .0405 INCHES |

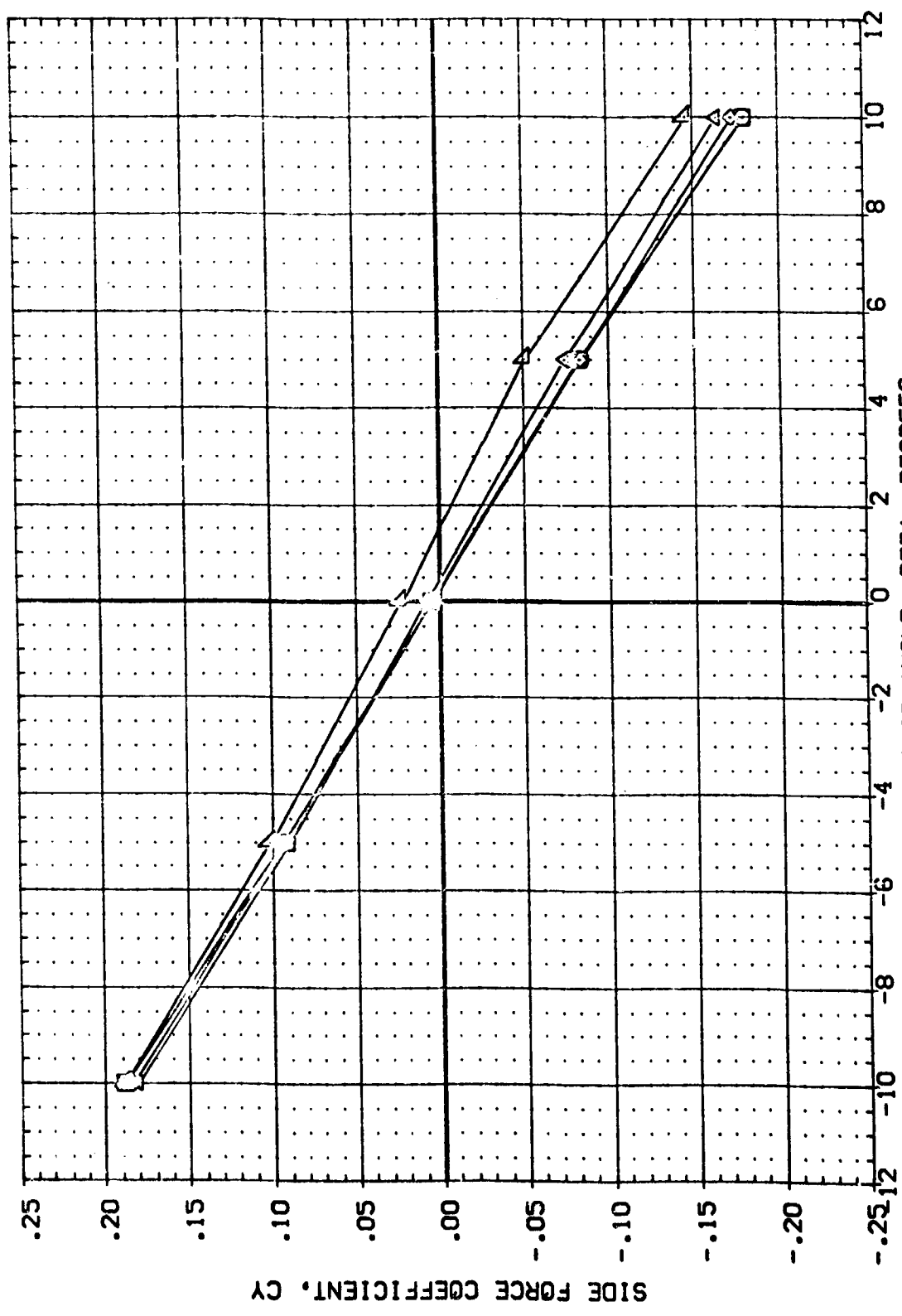


FIGURE 121 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE WITH CANARDH23
 (A)MACH = .16
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0A21B B21C7H23M4F5 W107E23V7R6 (ADP263)

| SYMBOL | | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | REFERENCE INFORMATION | | | | |
|--------|--------|------|-------------------|---------|--------|---------|-------------|---------|-----------------------|------|---------|---------|---------|
| O | BOFLAP | .160 | -18.000 | ELEVON | .000 | DATASET | ALPHA | DATASET | ALPHA | SREF | SQ.FT. | INCHES | INCHES |
| | | | .000 | VTL INC | .000 | ADP263 | .000 | ADP264 | 5.000 | REF | 19.2299 | 37.9359 | |
| | | | .000 | SPOBRK | 25.000 | ADP255 | 10.000 | ADP266 | 15.000 | REF | 43.5974 | .0000 | 16.2000 |
| | | | .000 | | | ADP267 | 20.000 | | | YPRP | SCALE | INCHES | INCHES |
| | | | | | | | | | | ZPRP | SCALE | INCHES | SCALE |

YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYMBET, PER DEGREE

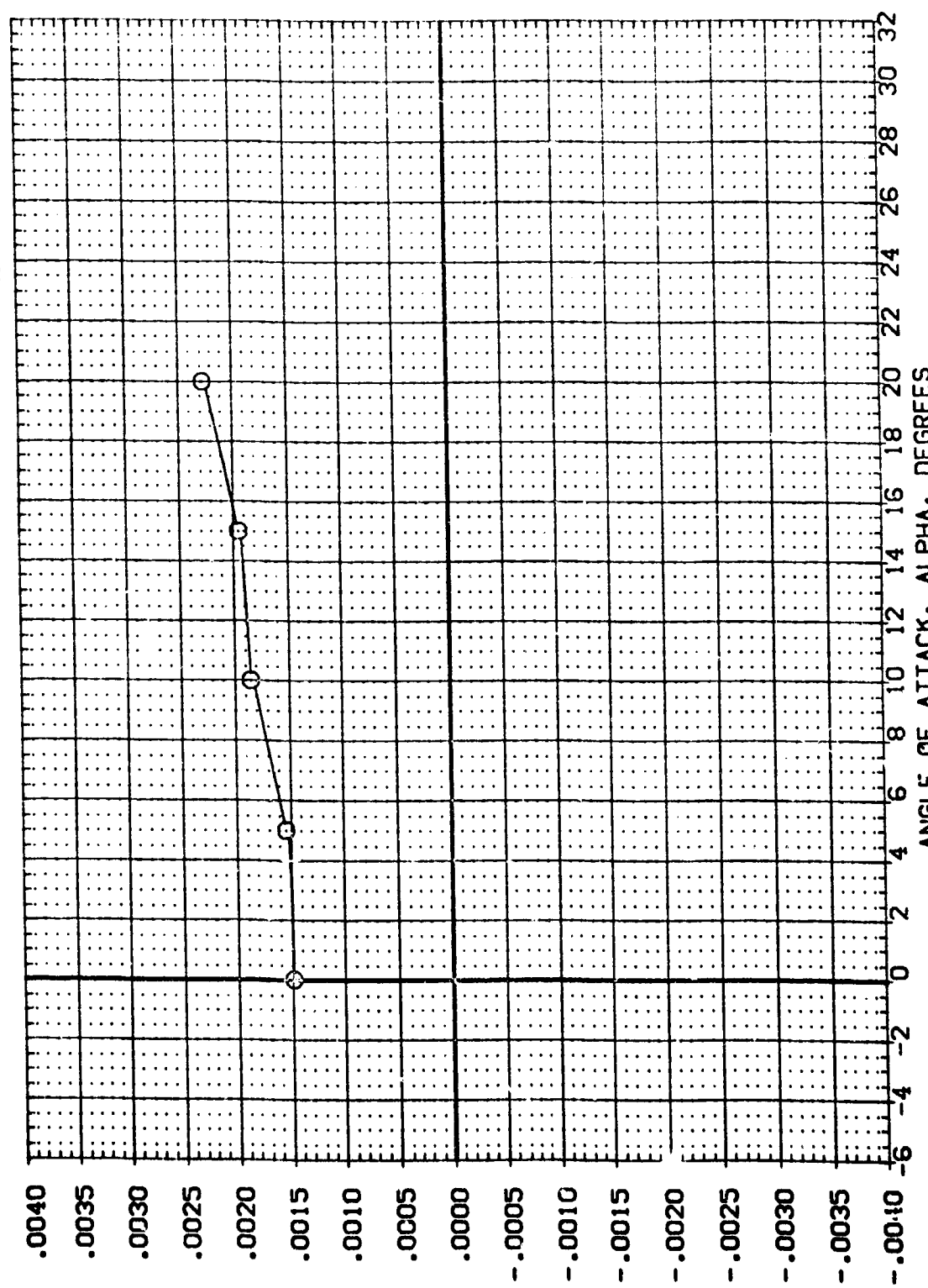


FIGURE 122 CONFIG 139B LAT.-DIR. DERIVATIVES OF CAMBERED NOSE WITH H23 CANARD



(ADP263)

0A21B B21C7H23M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | REFERENCE INFORMATION | | | |
|--------|------|-------------------|--------|--------|-------|-------------|---------|-----------------------|-------|---------|--------|
| | | BOFLAP | ELEVON | VTLINE | SPDRX | ALPHA | DATASET | ALPHA | SREF | SO.FT. | INCHES |
| O | .160 | AILRON | .000 | .000 | .000 | .000 | ADP263 | 5.000 | LREF | 4.4119 | INCHES |
| | | RUDER | .000 | .000 | .000 | 10.000 | ADP265 | 15.000 | BREF | 19.2299 | INCHES |
| | | CANARD | .000 | .000 | .000 | 20.000 | ADP267 | 15.000 | XMRP | 37.9359 | INCHES |
| | | | | | | | | | YMRP | 43.5974 | INCHES |
| | | | | | | | | | ZMRP | 16.2000 | INCHES |
| | | | | | | | | | SCALE | .0405 | SCALE |

ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CBLBET, PER DEGREE

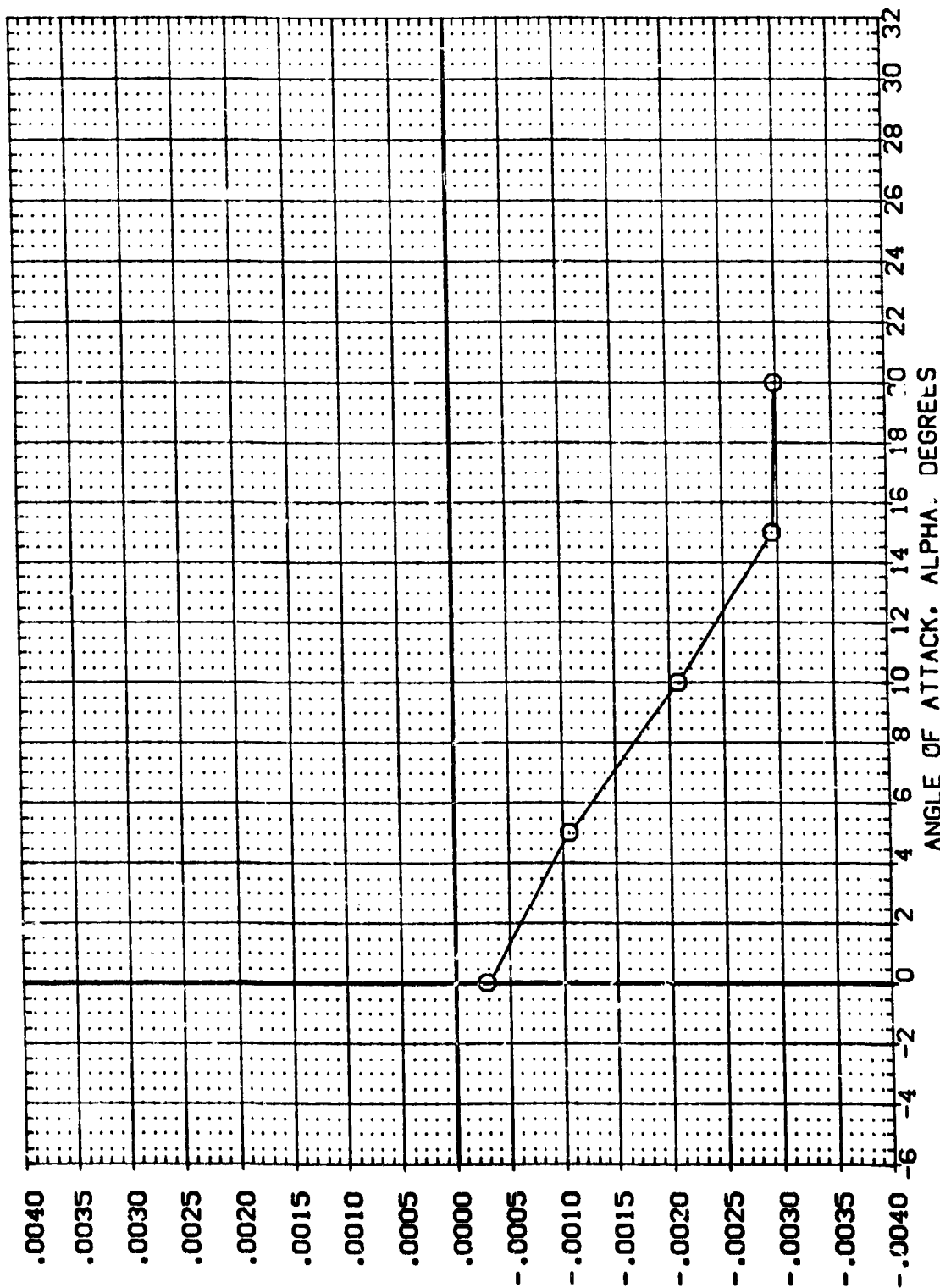


FIGURE 122 CONFIG 139B LAT.-DIR. DERIVATIVES OF CAMBERED NOSE WITH H23 CANARD

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| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDER | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|-------|--------|---------|-----------------------|
| (ADP251) | 0A21B B19C7H2SM4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP252) | 0A21B B19C7H2SM4F5 V107E23V7R6 | .5000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP253) | 0A21B B19C7H2SM4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP254) | 0A21B B19C7H2SM4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ADP255) | 0A21B B19C7H2SM4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

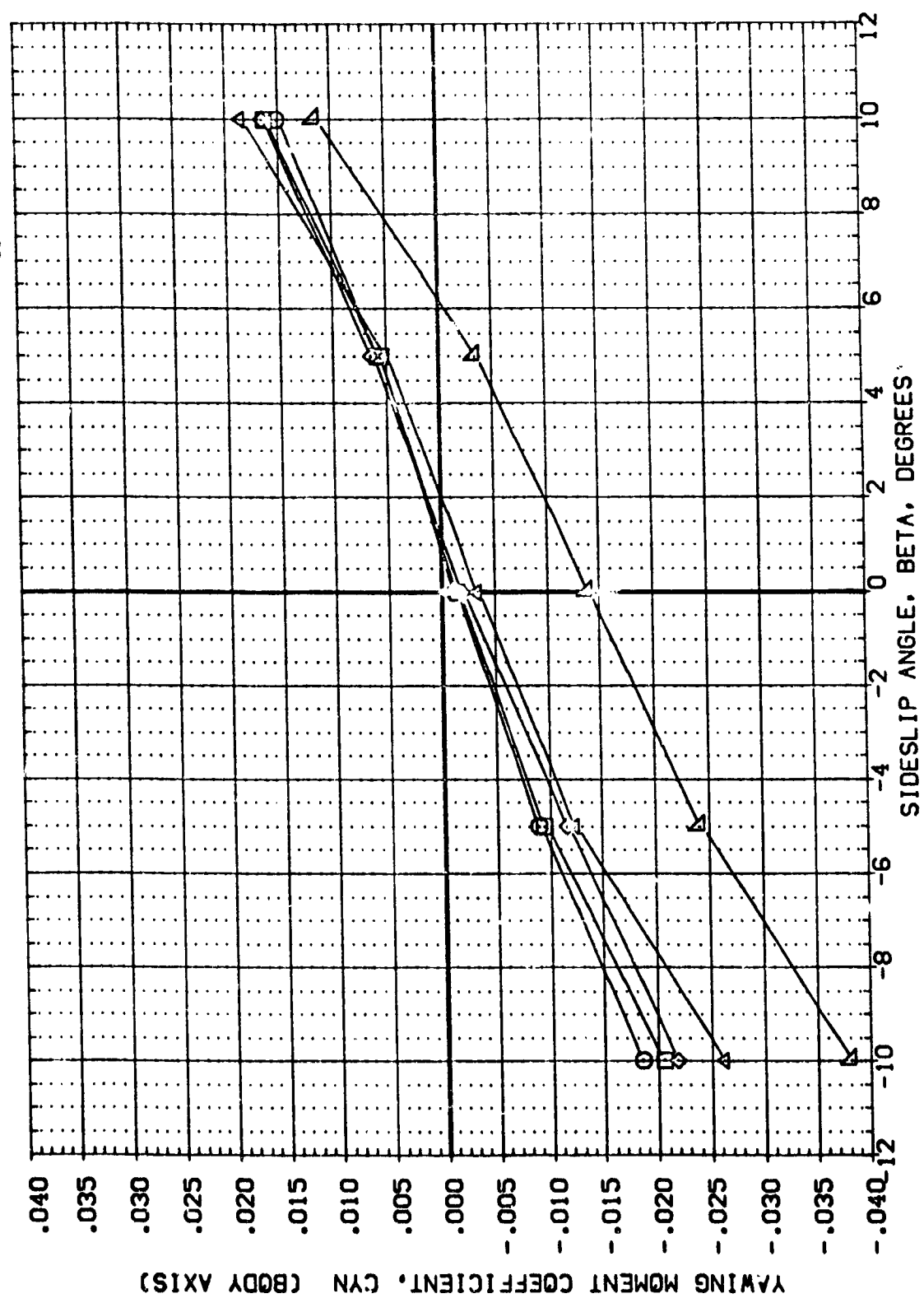


FIGURE 123 CONFIG 1398 LAT.-DIR. CHARACTERISTICS WITH H25 CANARD

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOILER | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|---------|---------|-----------------------|
| (ADP251) | 0A218 B19C7H2SM4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50.000 |
| (ADP252) | 0A218 B19C7H2SM4FS V107E23V7R6 | 5.000 | .000 | 23.000 | -18.000 | LREF 19.2299 10.000 |
| (ADP253) | 0A218 B19C7H2SM4FS V107E23V7R6 | 10.000 | .000 | 23.000 | -18.000 | BREF 37.9359 10.000 |
| (ADP254) | 0A218 B19C7H2SM4FS V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | YMRP 43.5574 10.000 |
| (ADP255) | 0A218 B19C7H2SM4FS V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | ZMRP 16.2000 10.000 |
| | | | | | | SCALE .0405 |

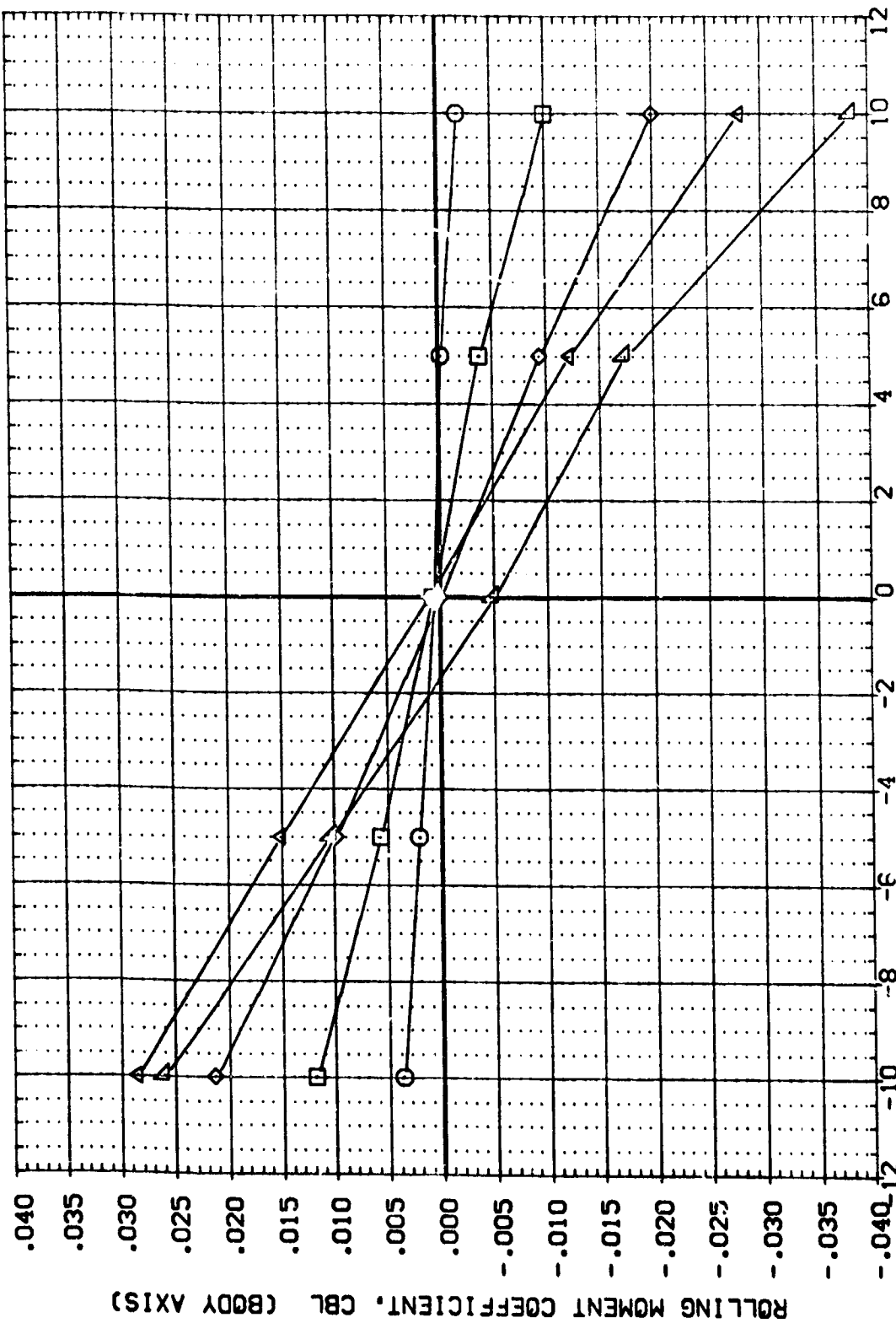


FIGURE 123 CONFIG 1398 LAT.-DIR. CHARACTERISTICS WITH H25 CANARD

(MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP251) | QAZ1B B19C7H25M4F5 VI07E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SO.FT. |
| (ADP252) | QAZ1B B19C7H25M4F5 VI07E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP253) | QAZ1B B19C7H25M4F5 VI07E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9338 INCHES |
| (ADP254) | QAZ1B B19C7H25M4F5 VI07E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ADP255) | QAZ1B B19C7H25M4F5 VI07E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 INCHES |

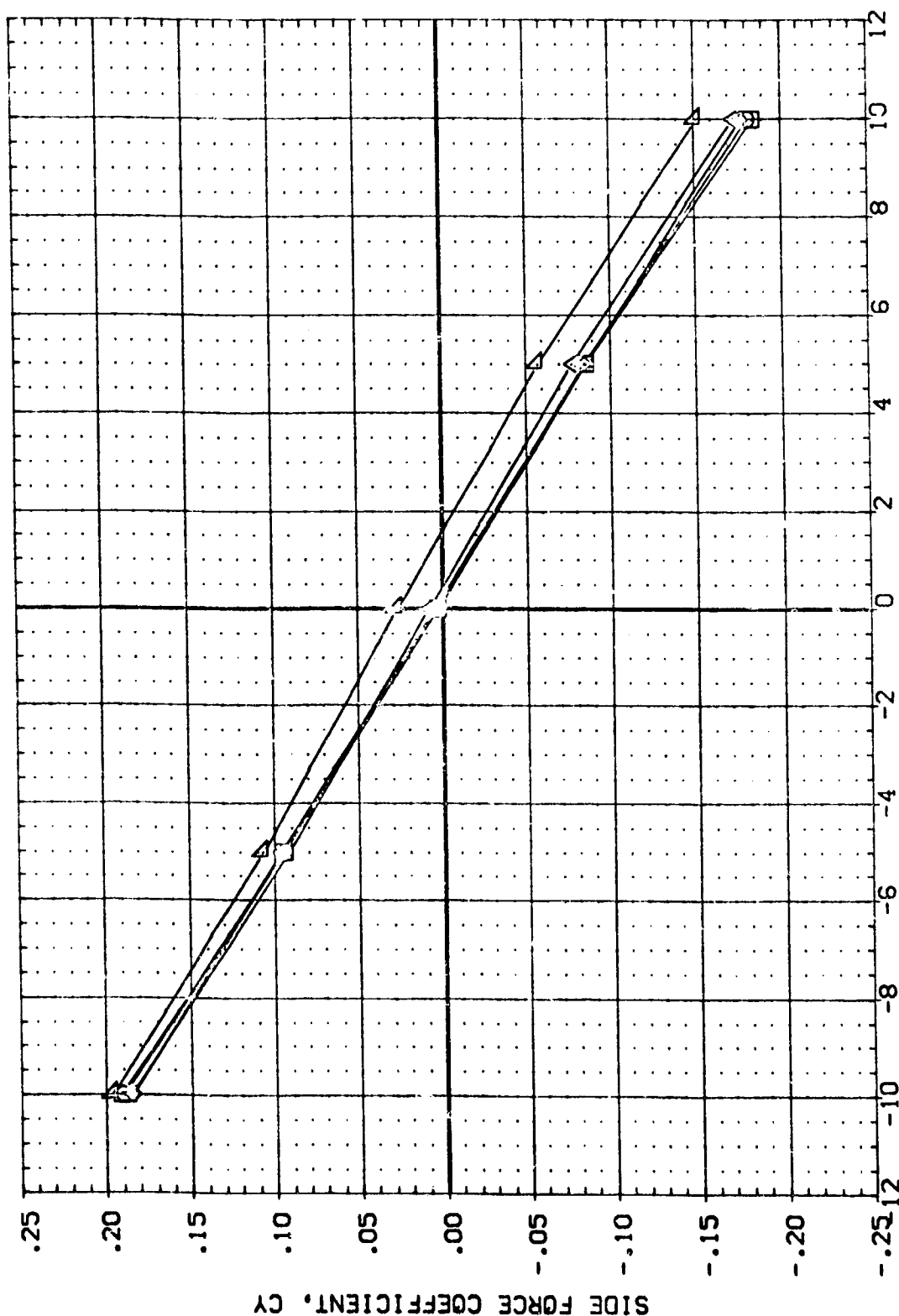


FIGURE 123 CONFIG 139B LAT.-DIR. CHARACTERISTICS WITH H25 CANARD

(A)MACH = .16

(ADP251)

0A21B B19C7H25M4F5 W107E23V7R6

| SYMBOL | MACH | BOFLAP | PARAMETRIC VALUES | DATA SOURCE | REFERENCE INFORMATION |
|--------|------|---------|-------------------|-------------|-----------------------|
| ○ | .160 | ATLIRON | -18.000 | ALPHA | 4.4119 |
| | | RUDDER | .000 | ADP251 | 19.2239 |
| | | CANARD | .000 | ADP253 | 37.9359 |
| | | | .000 | ADP255 | 43.5974 |
| | | | .000 | ADP252 | .0000 |
| | | | .000 | ADP254 | 16.2000 |
| | | | .000 | ADP256 | .0405 |

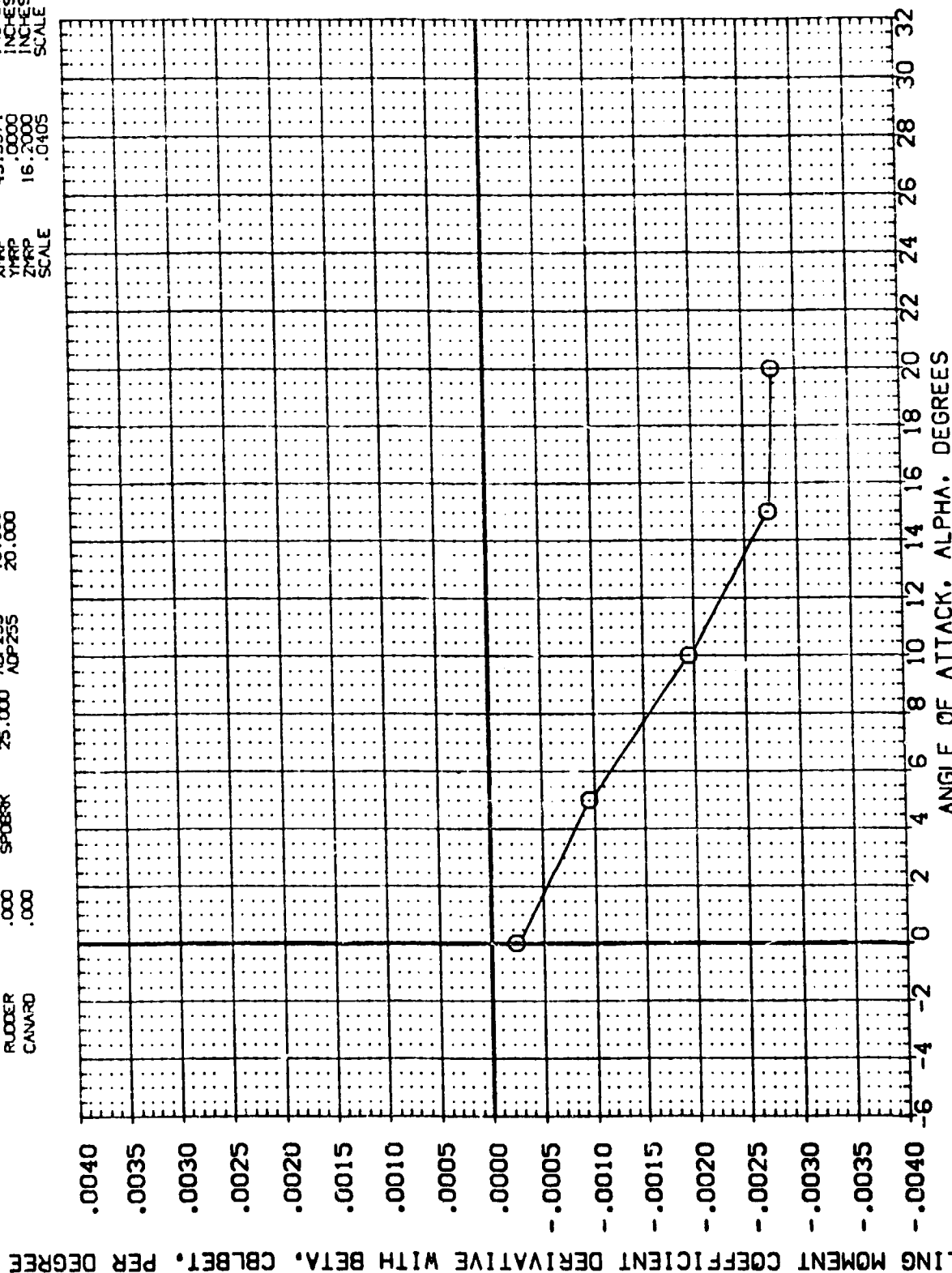


FIGURE 124 CONFIG 139B LAT.-DIR. DERIVATIVES WITH H25 CANARD

(ADP251)

W107E23V7R6

B19C7H25M4F5

0A218

SYMBOL

MACH

BOFLAP

PARAMETRIC VALUES

ELEVON

DATASET

ALPHA

DATA SOURCE

ALPHA

SREF

4.4119

SO.FT.

0

.160

ATLIRON

-18.000

.000

.000

.000

ADP251

5.000

LBREF

19.2299

INCHES

RUDDER

.000

SP08RK

.000

25.000

ADP253

10.000

ADP254

15.000

YMRP

43.5974

INCHES

CANARD

.000

16.2000

INCHES

SCALE

.0405

ADP255

20.000

YMRP

16.2000

INCHES

SCALE

SIDE FORCE COEFFICIENT DERIVATIVE WITH BETA, CYBETA, PER DEGREE

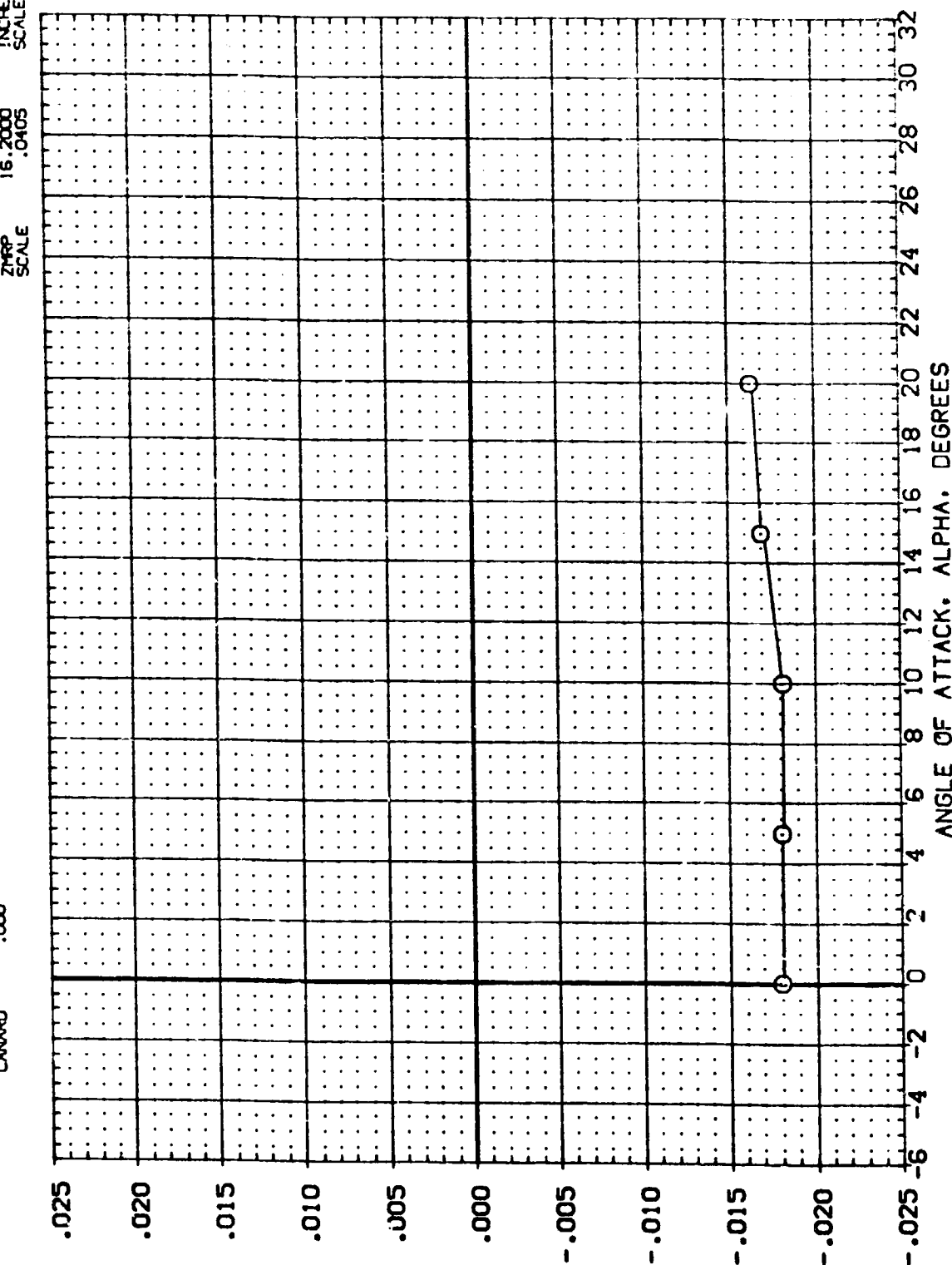


FIGURE 124 CONFIG 139B LAT.-DIR. DERIVATIVES WITH H25 CANARD



| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|-------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP269) | 0A218 B21C7H2S4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 50 FT. |
| (ADP270) | 0A218 B21C7H2S4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2259 INCHES |
| (ADP271) | 0A218 B21C7H2S4FS V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | GREF 37.0359 INCHES |
| (ADP272) | 0A218 B21C7H2S4FS V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XMRP 43.5974 INCHES |
| (ADP273) | 0A218 B21C7H2S4FS V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

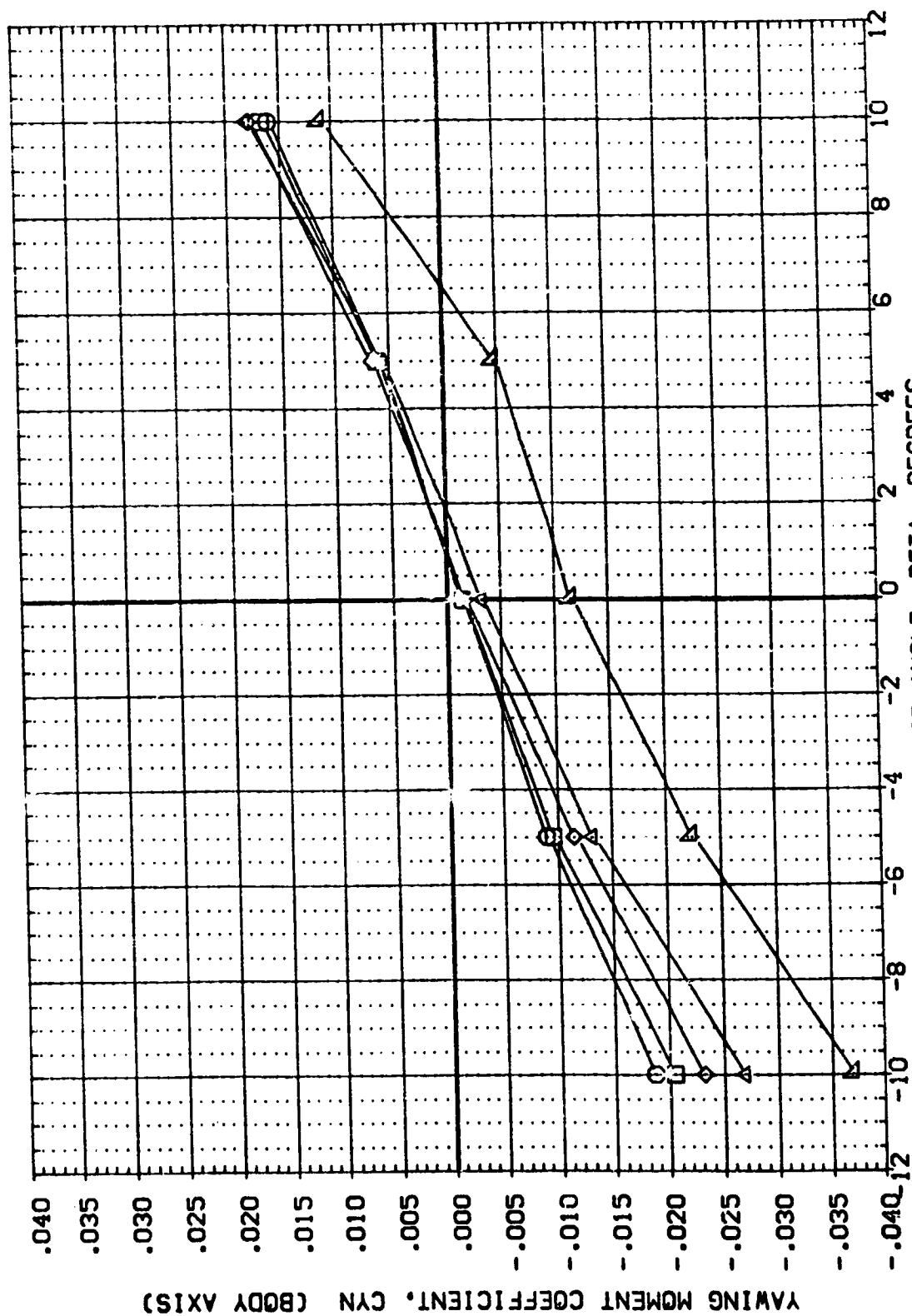


FIGURE 125 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE WITH CANARDH25
 (MACH = .16) PAGE 235

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|--------------------------------|--------|--------|--------|---------|---------------------------|
| (ADP269) | 0A218 B21C7-2SM4FS V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SO.FT. INCHES |
| (ADP270) | 0A218 B21C7-2SM4FS V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2258 INCHES |
| (ADP271) | 0A218 B21C7-2SM4FS V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP272) | 0A218 B21C7-2SM4FS V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XREF 43.5974 INCHES |
| (ADP273) | 0A218 B21C7-2SM4FS V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

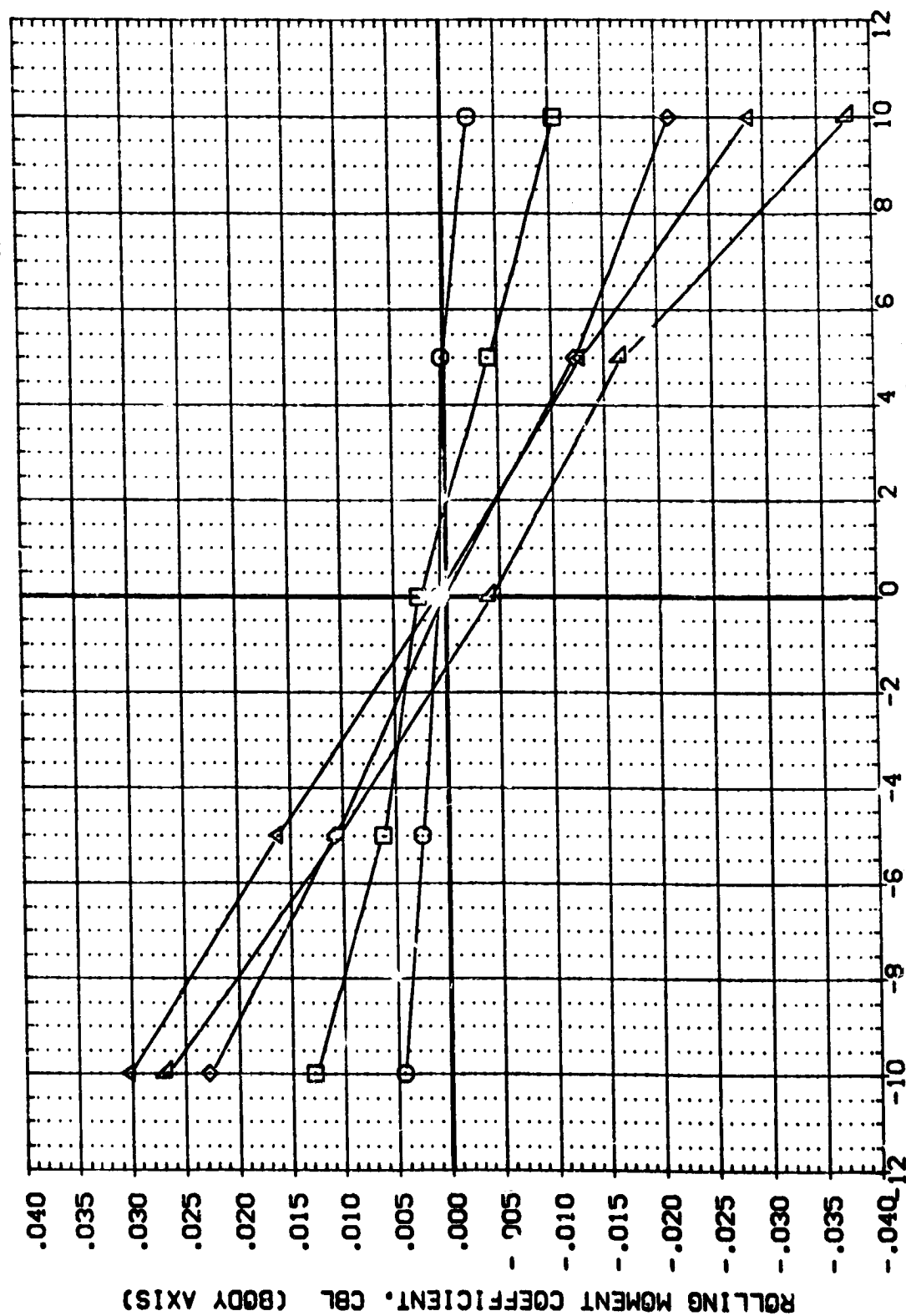


FIGURE 125 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE WITH CANARDH25

(A)MACH = .16



| DA | SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOILER | BOFLAP | REFERENCE INFORMATION |
|----------|------------|---------------------------|--------|--------|---------|---------|-----------------------|
| (ADP269) | □ | 0A218 821C742SMF5 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP270) | □ | 0A218 821C742SMF5 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2298 INCHES |
| (ADP271) | □ | 0A218 821C742SMF5 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP272) | □ | 0A218 821C742SMF5 | 15.000 | .000 | 25.000 | -18.000 | XMRP 43.5974 INCHES |
| (ADP273) | □ | 0A218 821C742SMF5 | 20.000 | .000 | 25.000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | | SCALE .0405 |

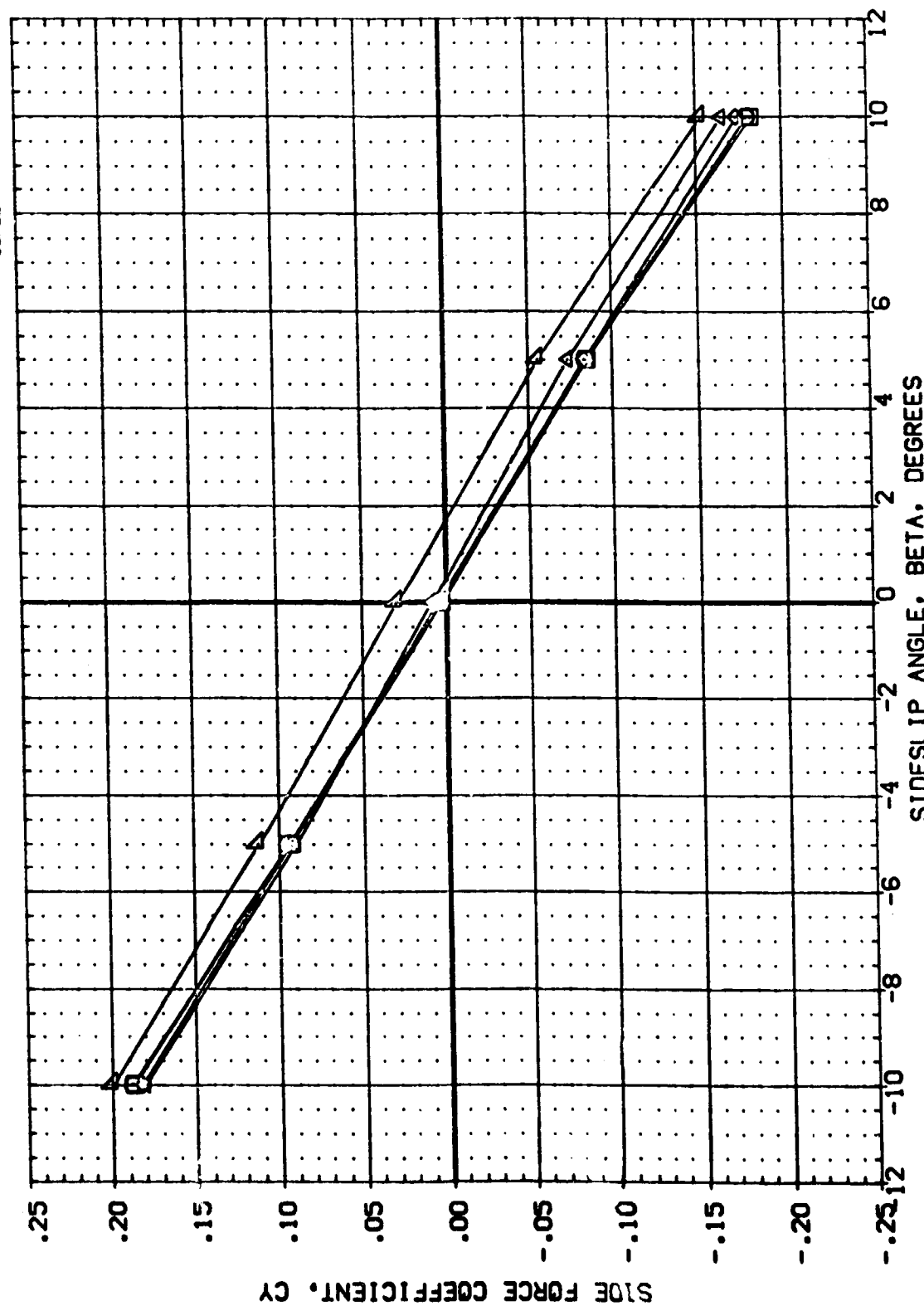


FIGURE 125 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE WITH CANARDH25

(MACH = .16



0A21B B21C7H25M4F5 W107E23V7R6 (ADP269)

| | | | | | | | | |
|--------|------|--------|---------|--------|--------|--|--|---|
| SYMBOL | MOX | BOFLAP | AILERON | RUDDER | CANARD | PARAMETRIC VALUES | DATA SOURCE | REFERENCE INFORMATION |
| ○ | .180 | | | | | -18.000 ELEVON .000 VTLINC .000 SPDRBK .000 | ALPHA .000 ADP270 ADP272 ADP271 ADP273 | SO.FT. INCHES INCHES INCHES INCHES INCHES SCALE |
| | | | | | | | 4.4119 19.2288 37.8268 43.5574 .0000 16.2000 .0405 | |

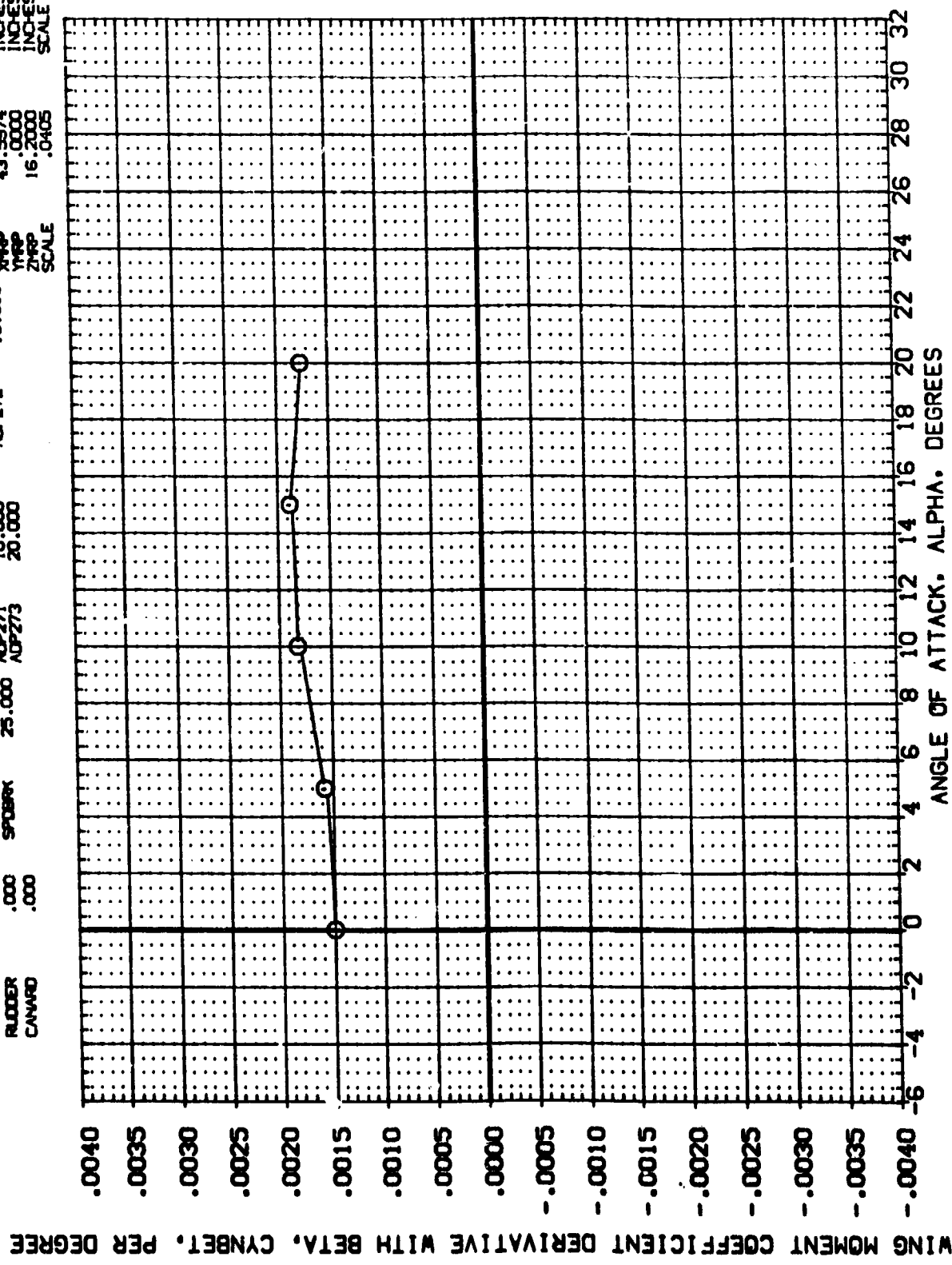


FIGURE 126 CONFIG 139B LAT.-DIR. DERIVATIVES OF CAMBERED NOSE WITH H25 CANARD

PAGE 238

GA218 B21C7H25M4F5

Symbol **O**

91.
HON

BOFLAP
AILRON
RUDDER
CANARD

PARAMETER
-i8,000
.000
.000
.000

VALUES
ELEVEN
ATLINC
SPDGRX

| | |
|--------|---------|
| .000 | DATASET |
| .000 | ADP269 |
| 25.000 | ADP271 |
| | ADP273 |

DATA SOURCE
ALPHA
.0000
10.0000
20.0000

DATASET
ADP270
ADP272

SREF
LREF
BREF
XMRP
YMRP
ZMRP
SCALE

| | |
|---------|--------|
| 4.4119 | 90.FT. |
| 19.2299 | INCHES |
| 37.9359 | INCHES |
| 43.5974 | INCHES |
| .0000 | INCHES |
| 16.2000 | INCHES |
| .0405 | SCALE |

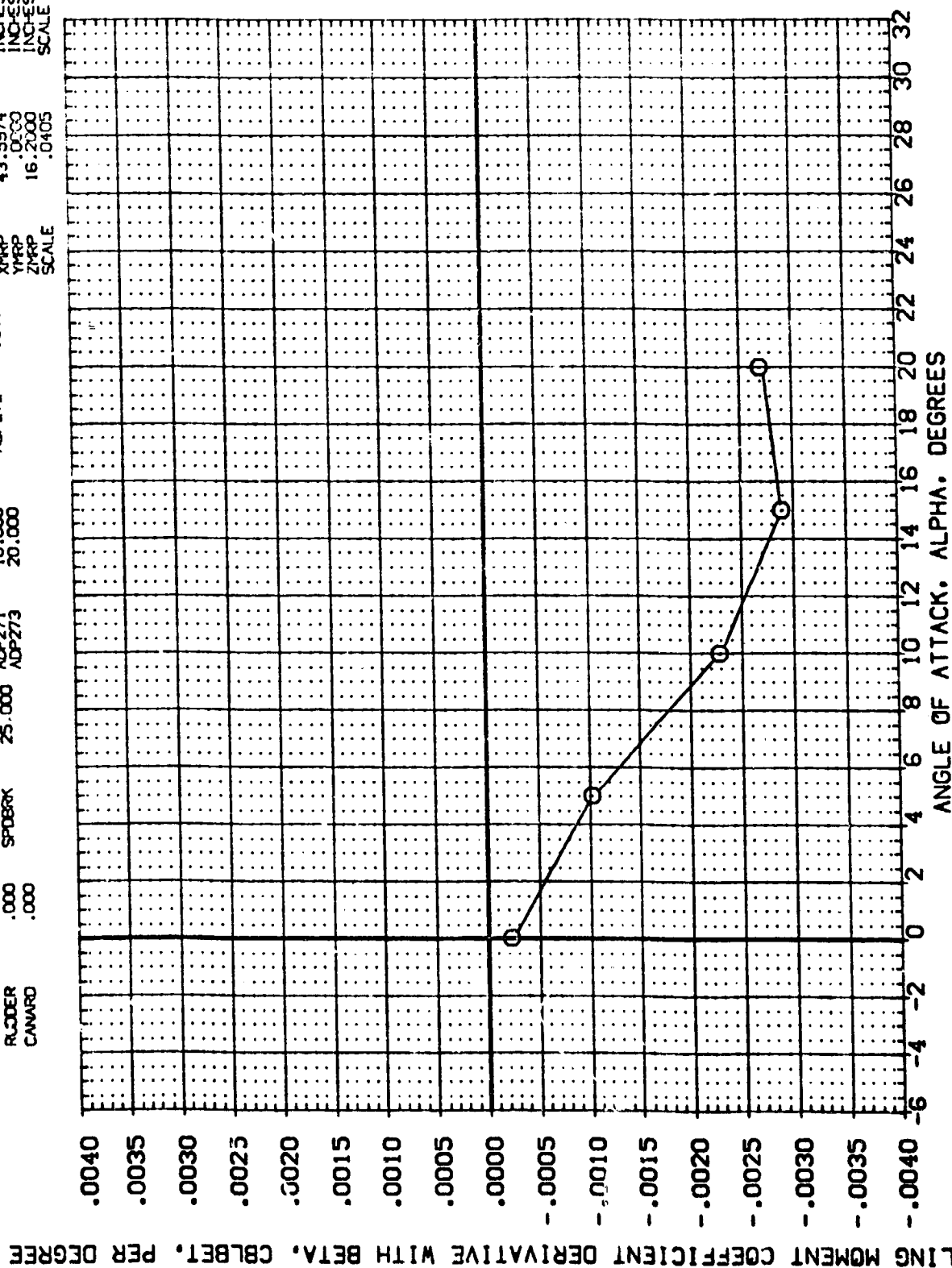


FIGURE 126 CONFIG 139B LAT.-DIR. DERIVATIVES OF CAMBERD NOSE WITH H25 CANARD



(ADP269)

0A21B B21C7H25M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | DATASET | | ALPHA | | REFERENCE INFORMATION | | | | |
|--------|------|-------------------|--------|--------|-------|-------------|--------|---------|--------|--------|--------|-----------------------|---------|---------|--------|--------|
| | | BOFLAP | ELEVSN | VTLINE | SPDRY | ALPHA | ALPHA | ADP270 | ADP272 | 5.000 | 15.000 | SREF | 4.4119 | SO.F.T. | INCHES | INCHES |
| O | .160 | AILRON | .000 | .000 | .000 | .000 | .000 | ADP269 | ADP271 | .000 | .000 | LREF | 19.239 | INCHES | INCHES | INCHES |
| | | RUDDER | .000 | .000 | .000 | 10.000 | 20.000 | .000 | ADP273 | 25.000 | .000 | YREF | 37.9359 | INCHES | INCHES | INCHES |
| | | CANARD | .000 | .000 | .000 | | | | | | | ZREF | 43.3974 | INCHES | INCHES | INCHES |
| | | | | | | | | | | | | ZMRP | 16.2000 | INCHES | INCHES | INCHES |
| | | | | | | | | | | | | SCALE | .0405 | INCHES | INCHES | INCHES |

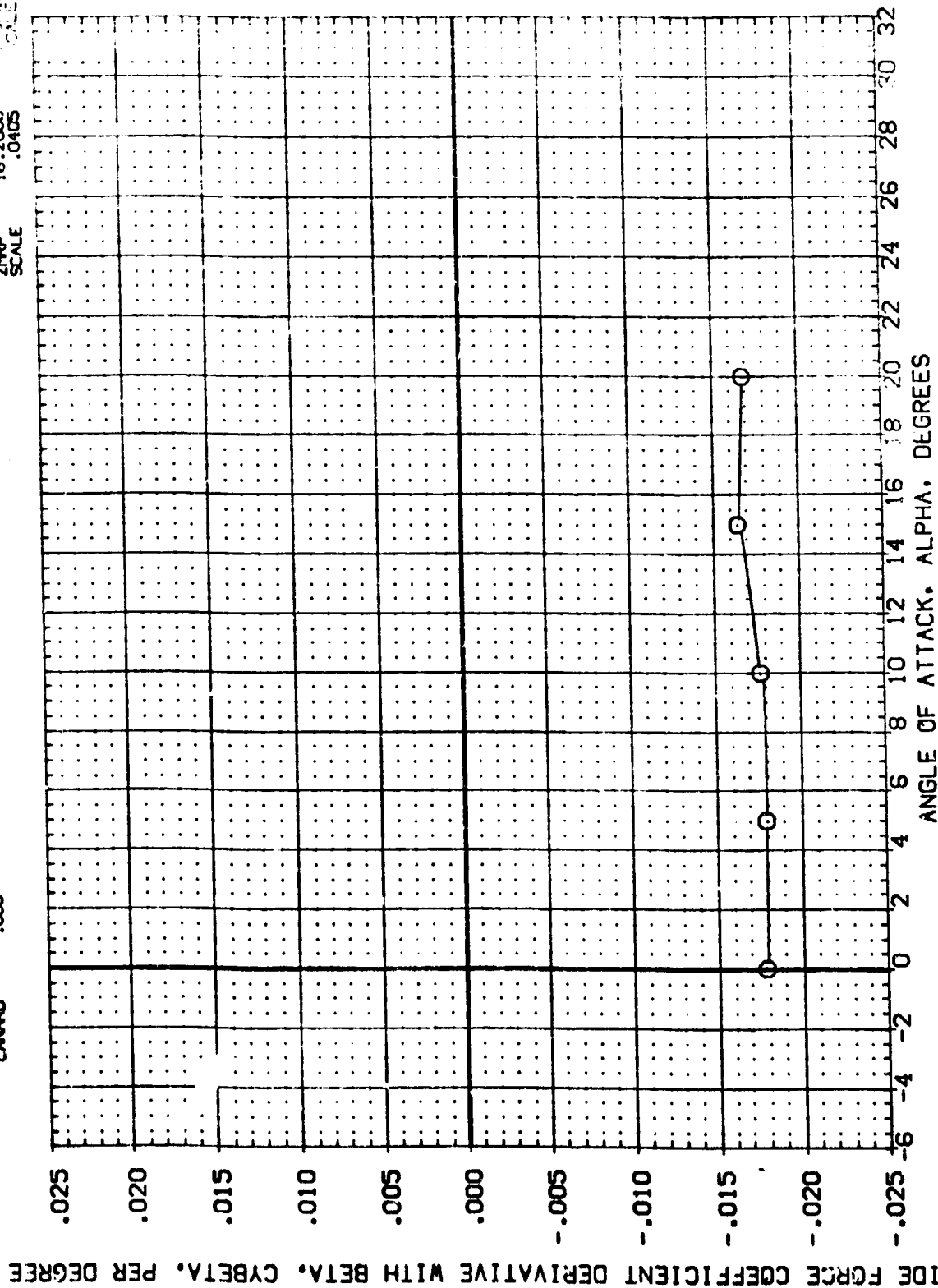


FIGURE 126 CONFIG 139B LAT.-DIR. DERIVATIVES OF CAMBERED NOSE WITH H25 CANARD

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPDRBK | BOFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP257) | 0A21B B21C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP258) | 0A21B B21C7 M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2298 INCHES |
| (ADP259) | 0A21B B21C7 M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.5353 INCHES |
| (ADP260) | 0A21B B21C7 M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XMRP 43.5974 INCHES |
| (ADP261) | 0A21B B21C7 M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YMRP .0000 INCHES |
| | | | | | | ZMRP 16.2000 INCHES |
| | | | | | | SCALE .0405 |

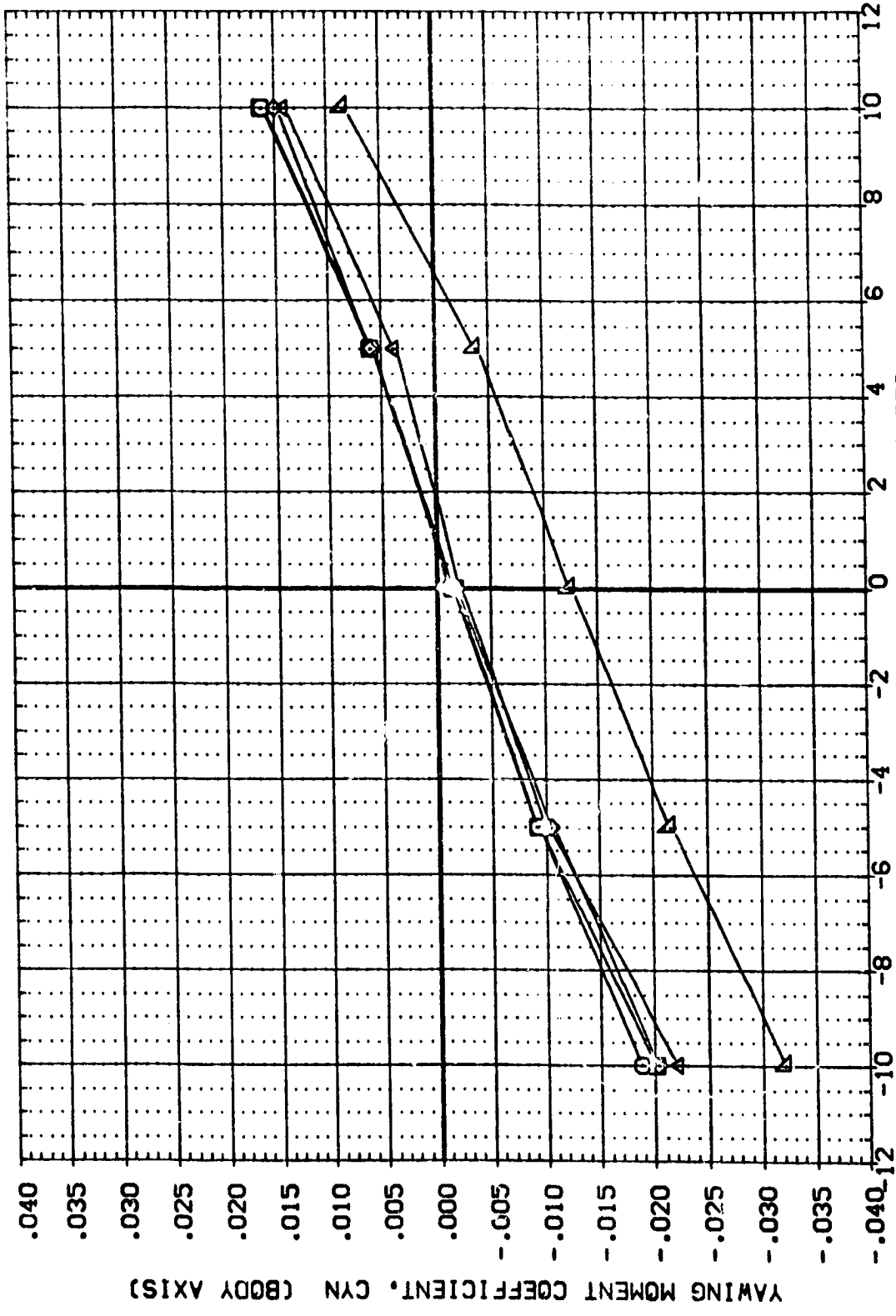


FIGURE 127 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPOBRK | BOFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP257) | QA21B B21C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SO.FT. |
| (ADP258) | QA21B B21C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | LREF 19.2239 INCHES |
| (ADP259) | QA21B B21C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 37.8759 INCHES |
| (ADP260) | QA21B B21C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | YREF 43.5574 INCHES |
| (ADP261) | QA21B B21C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | YREF 16.0000 INCHES |
| | | 20.000 | .000 | | | ZREF 16.0000 INCHES |
| | | | | | | SCALE .0005 |

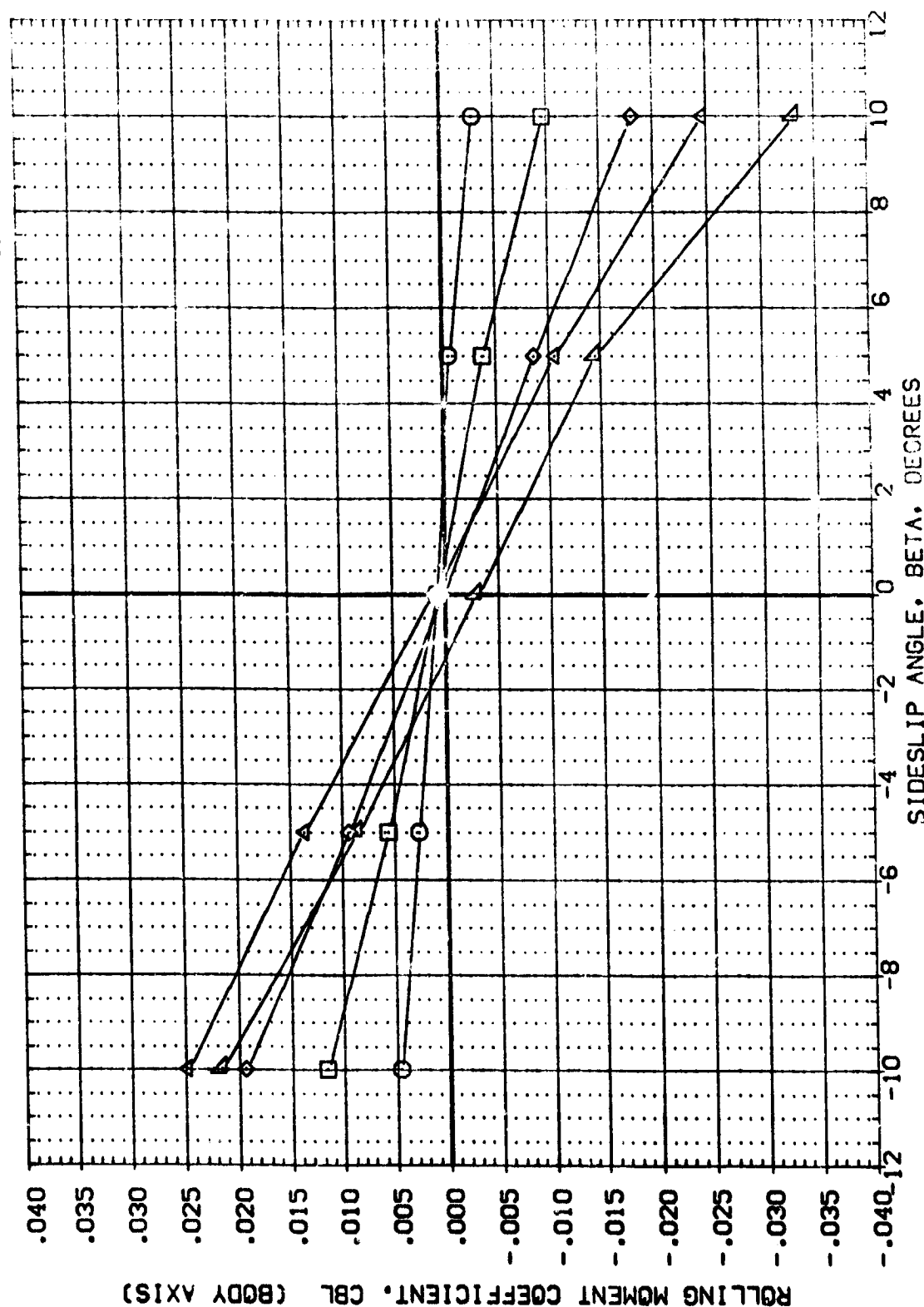


FIGURE 127 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE

(A)MACH = .16

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | ALPHA | RUDDER | SPODBK | BOFLAP | REFERENCE INFORMATION |
|-----------------|------------------------------|--------|--------|--------|---------|-----------------------|
| (ADP257) | 0A21B B21C7 M4F5 V107E23V7R6 | .000 | .000 | 25.000 | -18.000 | SREF 4.4119 SQ.FT. |
| (ADP258) | 0A21B B21C7 M4F5 V107E23V7R6 | 5.000 | .000 | 25.000 | -18.000 | LREF 19.2299 INCHES |
| (ADP259) | 0A21B B21C7 M4F5 V107E23V7R6 | 10.000 | .000 | 25.000 | -18.000 | BREF 37.9359 INCHES |
| (ADP260) | 0A21B B21C7 M4F5 V107E23V7R6 | 15.000 | .000 | 25.000 | -18.000 | XREF 43.5574 INCHES |
| (ADP261) | 0A21B B21C7 M4F5 V107E23V7R6 | 20.000 | .000 | 25.000 | -18.000 | YREF .0000 INCHES |
| | | | | | | ZREF 16.2000 INCHES |
| | | | | | | SCALE .0405 |

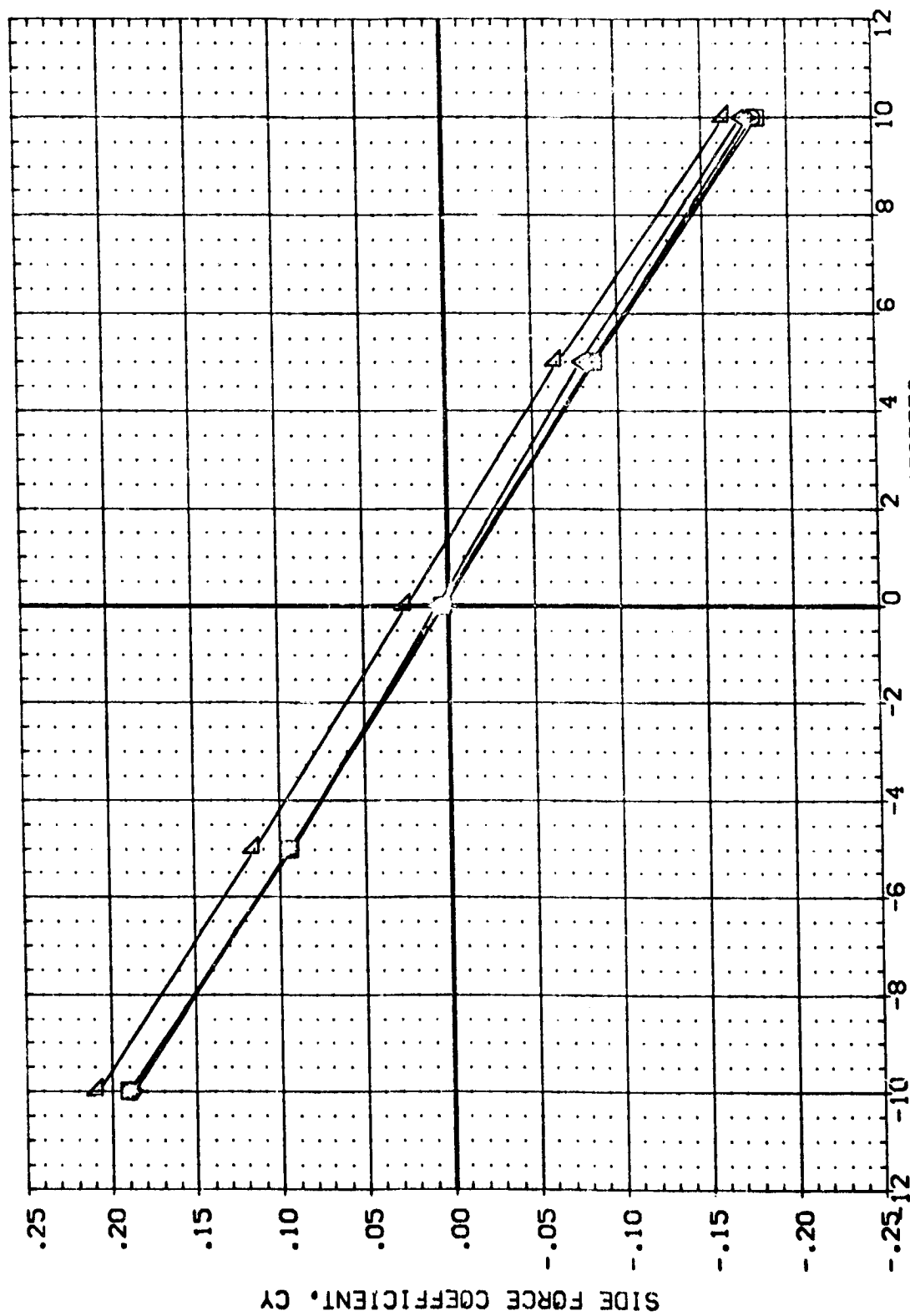


FIGURE 127 CONFIG 139B LAT.-DIR. CHARACTERISTICS OF CAMBERED NOSE

(A)MACH = .16

(ADP257)

0A21B 821C7 M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | DATA SOURCE | | REFERENCE INFORMATION | | |
|--------|------|-------------------|--------|---------|-------------|---------|-----------------------|---------|--------|
| | | BOFLAP | ELEVON | VTILINC | ALPHA | DATASET | SREF | SO.FT. | SCALE |
| O | .160 | -18.000 | .000 | .000 | .000 | ADP257 | 19.2298 | 4.4119 | 50.000 |
| | | AILRON | .000 | .000 | 10.000 | ADP258 | 47.9359 | 43.5374 | 10.000 |
| | | RUDER | .000 | .000 | 20.000 | ADP260 | 43.5374 | 43.5374 | 10.000 |
| | | | | | | | 16.2000 | 16.2000 | 10.000 |
| | | | | | | | 16.2000 | 16.2000 | 10.000 |

YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYNBET, PER DEGREE

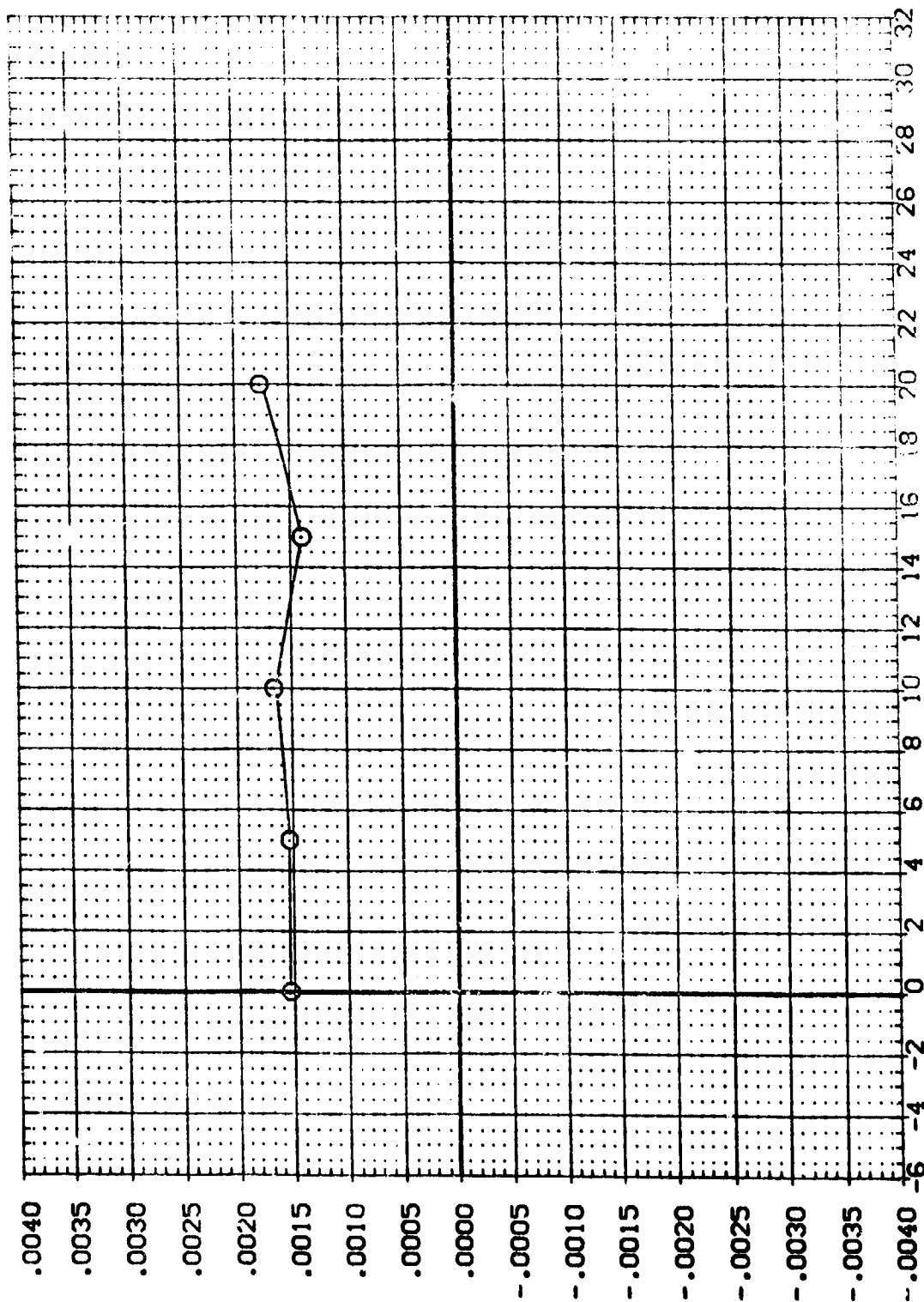


FIGURE 128 CONFIG 139B LAT.-DIR. DERIVATIVES OF CAMBERED NOSE

(ADP257)

0A21B B21C7 M4F5 W107E23V7R6

| SYMBOL | MACH | PARAMETRIC VALUES | | | | DATA SOURCE | | DATASET | | ALPHA | SREF | REFERENCE INFORMATION | |
|--------|------|-------------------|--------|--------|---------|-------------|---------|---------|---------|---------|--------|-----------------------|--------|
| | | BOFLAP | ELEVON | VTILNC | SPULLCK | ALPHA | DATASET | ALPHA | DATASET | | | INCHES | 50.FT. |
| O | .160 | -18.000 | .000 | .000 | .000 | ADP257 | ADP258 | 5.000 | LREF | 19.2299 | INCHES | | |
| | | .000 | .000 | .000 | .000 | ADP259 | ADP260 | 15.000 | BREF | 37.9359 | INCHES | | |
| | | .000 | 25.000 | .000 | .000 | ADP261 | | | XGRP | 43.5974 | INCHES | | |
| | | | | | | | | | YGRP | 0.000 | INCHES | | |
| | | | | | | | | | ZGRP | 16.2000 | INCHES | | |
| | | | | | | | | | SCALE | .0405 | SCALE | | |

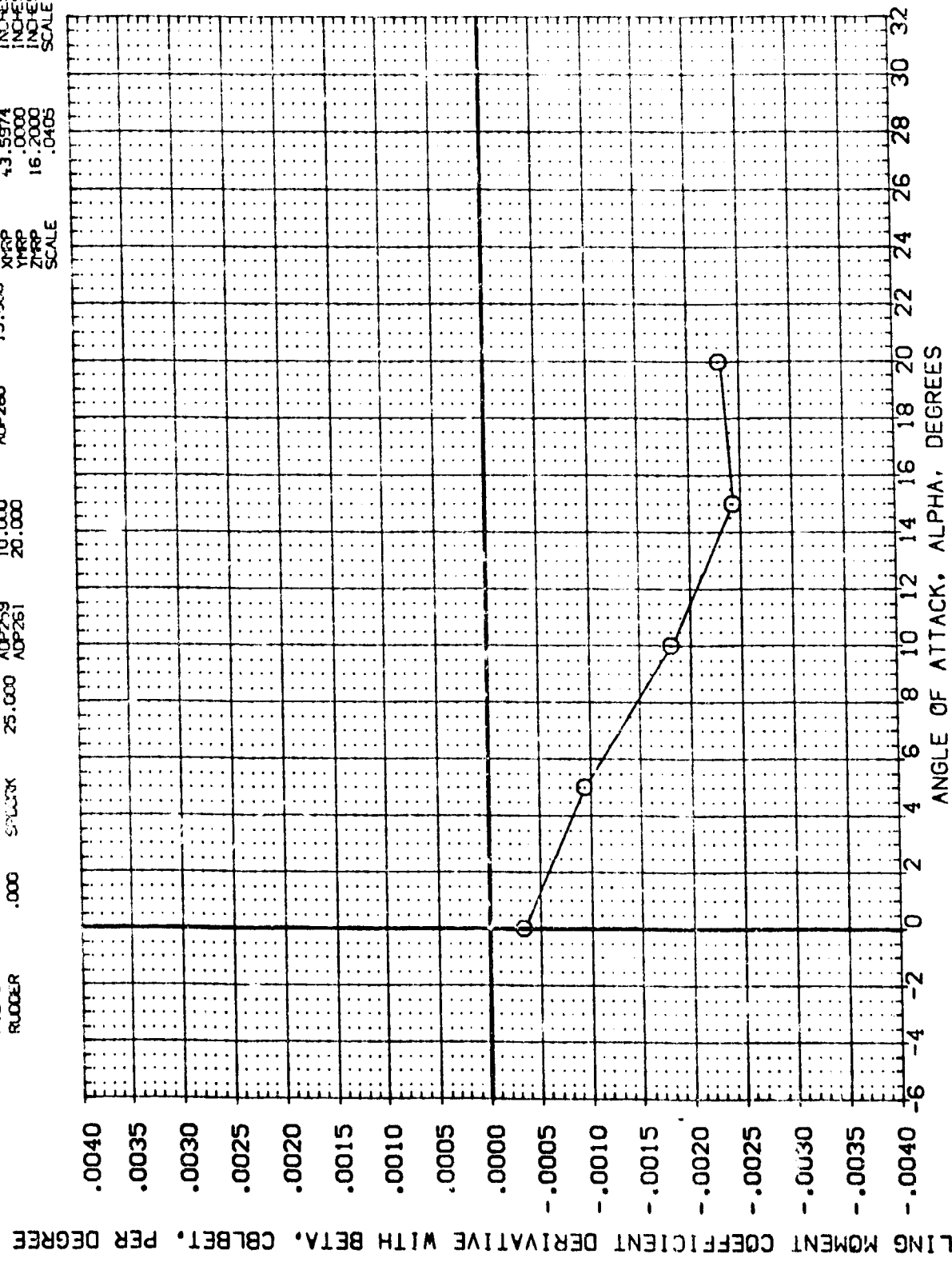


FIGURE 128 CONFIG 139B LAT.-DIR. DERIVATIVES OF CAMBERED NOSE

(ADP257)

QA21B B21C7 M4F5 W107E23V7R6

SYMBOL: MACH: .160
BOFLAP: AILRON: RUDDER:
PARAMETRIC VALUES:
-18.000 ELEVON
.000 VTL INC
.000 SPDBRK
DATA SOURCE:
ALPHA: .000
ADP257
25.000 ADP259
20.000 ADP261
DATASET:
ADP258
ADP260
ALPHA: 5.000
15.000
SREF: 4.4118
LREF: 19.2239
XREF: 37.5359
YREF: 43.5974
ZREF: 16.2000
SCALE: .0405
REFERENCE IN INCHES:
SOFT: 50.00
INCHES: 19.2239
INCHES: 37.5359
INCHES: 43.5974
INCHES: 16.2000
SCALE: .0405

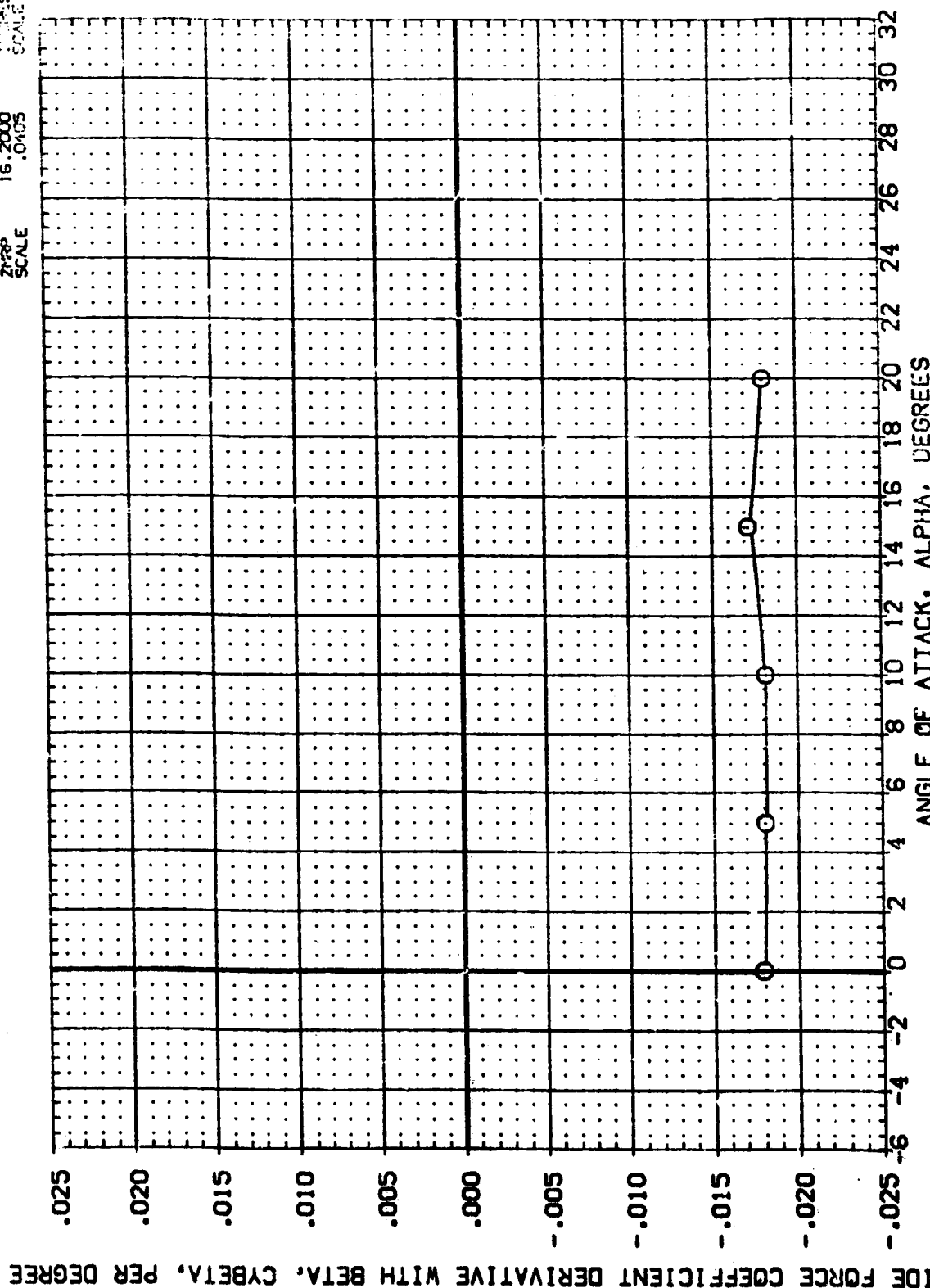


FIGURE 128 CONFIG 1398 LAT.-DIR. DERIVATIVES OF CAMBERED NOSE

APPENDIX

TABULATED SOURCE DATA

Plotted data listings available on request
from the Data Management Systems.

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A218)

PAGE 1

(RUP175) (19 JUL 73)

0A218 B19C7 MAF5 W107E23V7R6

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPDRBK = .000

RUN NO. 175/ 0 RN/L = 1.85 GRADIENT INTERVAL = -9.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CBL | CY | XCF/L | CAB |
|----------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.220 | -.26360 | .03340 | .04320 | -.26530 | .01396 | -.00110 | .00070 | .00400 | .70900 | .03429 |
| .260 | -2.120 | -.16500 | .02650 | .04210 | -.16590 | .02138 | -.00110 | .00060 | .00400 | .74300 | .03357 |
| .260 | -.020 | -.06670 | .02180 | .04230 | -.06680 | .02186 | -.00110 | .00070 | .00300 | .87600 | .03363 |
| .260 | 2.070 | .02600 | .02040 | .04320 | .02670 | .01950 | -.00110 | .00040 | .00400 | .05900 | .03343 |
| .260 | 4.160 | .12140 | .02240 | .04410 | .12270 | .01360 | -.00110 | .00040 | .00400 | .51700 | .03306 |
| .260 | 6.250 | .22010 | .02810 | .04370 | .22190 | .00403 | -.00120 | .00030 | .00300 | .37700 | .03247 |
| .260 | 8.340 | .32070 | .03930 | .04310 | .32290 | -.00674 | -.00140 | .00000 | .00400 | .80000 | .03193 |
| .260 | 10.480 | .42200 | .05320 | .04290 | .42460 | -.02445 | -.00140 | -.00010 | .00500 | .61200 | .03263 |
| .260 | 12.590 | .52210 | .07350 | .04320 | .52360 | -.04206 | -.00160 | -.00010 | .00500 | .61900 | .03384 |
| .260 | 14.690 | .62910 | .10130 | .04170 | .63430 | -.06157 | -.00200 | .00020 | .00500 | .62500 | .03490 |
| .260 | 16.810 | .74300 | .13860 | .03630 | .75140 | -.08224 | -.00260 | .00120 | .00700 | .63200 | .03675 |
| .260 | 18.990 | .85290 | .21240 | .02180 | .87360 | -.07678 | -.01340 | -.00530 | .03000 | .64000 | .03991 |
| .260 | 21.070 | .96110 | .27630 | .01350 | .99620 | -.08761 | -.01190 | -.00790 | .02700 | .64400 | .04260 |
| .260 | 23.190 | 1.05990 | .35890 | .00450 | 1.11560 | -.08754 | -.00700 | -.00610 | .01900 | .64800 | .04727 |
| .260 | 25.300 | 1.1323 | .43600 | .00630 | 1.21010 | -.07171 | -.00330 | -.00240 | .00900 | .64700 | .05269 |
| .260 | 27.380 | 1.17950 | .50510 | .01800 | 1.27970 | -.09406 | -.00200 | -.00080 | .00800 | .64400 | .05950 |
| .260 | 29.400 | 1.15650 | .53940 | .03330 | 1.27410 | -.09684 | -.00190 | -.00060 | .01600 | .63400 | .06586 |
| .260 | 31.320 | 1.04770 | .53560 | .10850 | 1.17350 | -.08705 | -.00020 | -.01370 | .02600 | .61500 | .07572 |
| GRADIENT | | .04587 | -.00134 | .00014 | .04823 | -.00007 | -.00000 | -.00004 | -.00000 | -.05114 | -.00012 |

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TABULATED SOURCE DATA - NAAL 7059 (0421B)

PAGE 2

0421B B19C7 H4F5 W107E23V7R6

(RDP176) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 176/ 0 RN/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

| MACH | ALPHA | CL | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.230 | -.25780 | .03900 | -.25930 | .00972 | .00350 | .00250 | -.08500 | .70500 | .03594 |
| .260 | -2.140 | -.16160 | .03790 | -.16230 | .01522 | .00330 | .00110 | -.08000 | .73500 | .03614 |
| .260 | -.050 | -.06600 | .03800 | -.06610 | .01721 | .00330 | -.00020 | .00500 | .86100 | .03570 |
| .260 | 2.030 | .02800 | .03920 | .02860 | .01588 | .00330 | -.00190 | -.08500 | .14500 | .03433 |
| .260 | 4.120 | .12200 | .04020 | .12300 | .00974 | .00310 | -.00270 | -.08500 | .52900 | .03478 |
| .260 | 6.220 | .02480 | .04030 | .22790 | .00092 | .00460 | -.00400 | -.08400 | .58200 | .03510 |
| .260 | 8.340 | .32020 | .04000 | .42540 | -.01164 | .00470 | -.00350 | -.08400 | .61500 | .03507 |
| .260 | 10.460 | .04970 | .03990 | .52890 | -.02797 | .00440 | -.00770 | -.08400 | .62900 | .03561 |
| .260 | 12.560 | .52600 | .03870 | .64000 | -.04566 | .00340 | -.00980 | -.07700 | .63400 | .03712 |
| .260 | 14.670 | .09940 | .03550 | .75440 | -.06334 | .00190 | -.01100 | -.07400 | .64100 | .03995 |
| .260 | 16.800 | .74630 | .03210 | .86360 | -.08948 | -.00620 | -.01360 | -.05900 | .64500 | .04328 |
| .260 | 18.930 | .86480 | .02120 | 1.00360 | -.09686 | -.00330 | -.01560 | -.06500 | .64600 | .04565 |
| .260 | 21.060 | .97160 | .01210 | 1.11520 | -.10729 | -.00270 | -.01610 | -.06300 | .64600 | .05196 |
| .260 | 23.200 | 1.06730 | .00880 | 1.21720 | -.09307 | .00260 | -.00320 | -.07600 | .64600 | .05936 |
| .260 | 25.290 | 1.14030 | .00130 | 1.29080 | -.09772 | .00260 | -.00810 | -.07800 | .64600 | .06923 |
| .260 | 27.370 | 1.19120 | .00990 | 1.25340 | -.09805 | -.00290 | -.01510 | -.05200 | .63400 | .07627 |
| .260 | 29.360 | 1.14050 | .52910 | 1.18820 | -.09574 | -.00140 | -.01510 | -.05500 | .61900 | .07627 |
| .260 | 31.360 | 1.06340 | .53940 | 1.04578 | .00003 | -.00004 | -.00064 | .00003 | -.04508 | -.09020 |
| .260 | GRADIENT | .04548 | .000120 | .00018 | .00003 | -.00004 | -.00064 | .00003 | -.04508 | -.09020 |

GRADIENT

(RDP177) (19 JUL 73)

0421B B19C7 H4F5 W107E23V7R6

PARAMETRIC DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 177/ 0 RN/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

| MACH | BETA | CL | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|--------|---------|--------|---------|---------|---------|--------|--------|
| .260 | -10.140 | -.04660 | .01040 | -.04660 | .01046 | -.01410 | .00200 | .18400 | .88400 | .03735 |
| .260 | -9.070 | -.06160 | .01860 | -.06160 | .01863 | -.00720 | .00170 | .09300 | .87100 | .03474 |
| .260 | .000 | -.06860 | .02220 | -.06860 | .02220 | -.00080 | .00070 | .00300 | .87500 | .03365 |
| .260 | 5.090 | -.06510 | .01790 | -.06520 | .01787 | .00040 | -.00020 | -.08600 | .86200 | .03519 |
| .260 | 10.140 | -.05210 | .00810 | -.05210 | .00811 | .00210 | -.00030 | -.17800 | .86100 | .03785 |
| .260 | GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

GRADIENT

0A21B B19C7 M4F5 W107E23V7R6

(RDP178) (19 JUL 73)

REFERENCE DATA

| | | | | | |
|--------|---------|--------|--------|---------|--------|
| SRCP = | 4.4119 | 94.17. | XRRP = | 43.9974 | INCHES |
| LRCP = | 19.2208 | INCHES | YRRP = | .0000 | INCHES |
| BRCP = | 37.9399 | INCHES | ZRRP = | 16.2000 | INCHES |
| SCALE | = | .0405 | SCALE | | |

RUN NO. 178/0 RM/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA:

| | | | |
|----------|-------|----------|---------|
| ALPHA = | 5.000 | BDFAP = | -16.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTLCN = | .000 | RUDDER = | .000 |
| SPOBRK = | .000 | | |

[illegible]

REFERENCE DATA

985F = 4.4119 98.FT. 904P = 43.5974 INCHES
 106F = 19.2259 INCHES 914P = .0000 INCHES
 885F = 37.9359 INCHES 216P = 16.2700 INCHES
 SCALE = .0475 SCALE

| | | | |
|---------|-------|-------------|---------------------------------|
| RUN NO. | 179/0 | RN/L = 1.85 | GRADIENT INTERVAL = -5.00/ 5.00 |
|---------|-------|-------------|---------------------------------|

PARAMETRIC DATA

| | | | |
|-----------|--------|-----------|---------|
| ALPHA = | 10.000 | BIDFLAP = | -10.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTLINC = | .000 | RUDDER = | .000 |
| SF 288K = | .000 | | |

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|---------|--------|--------|--------|--------|---------|---------|---------|---------|--------|-----|
| .260 | -10.130 | .49220 | .04820 | .03360 | .43340 | -.03303 | -.01660 | .01760 | .16300 | .03696 | |
| .260 | -5.060 | .42340 | .05110 | .03940 | .42570 | -.02659 | -.00670 | .01460 | .09400 | .03362 | |
| .260 | -.080 | .42090 | .05310 | .04310 | .42310 | -.02408 | -.00140 | .01300 | .00400 | .03302 | |
| .260 | 5.060 | .42310 | .05050 | .03940 | .42320 | -.02710 | .00450 | -.01770 | -.06200 | .03492 | |
| .260 | 10.150 | .43240 | .04530 | .03260 | .43350 | -.03399 | .01190 | -.01630 | -.17210 | .03961 | |
| .260 | 25.000 | .43000 | .04000 | .03000 | .43000 | -.03000 | .00000 | .00000 | .00000 | .00000 | |



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TABULATED SOURCE DATA - NAAL 703B (0A218)

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0A218 B19C7 WAF5 W107E23V7R6

(RDP182) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XWRP = 43.5974 INCHES
LREF = 19.2299 INCHES YWRP = .0000 INCHES
BREF = 37.9359 INCHES ZWRP = 16.2000 INCHES
SCALE = .0405 SCALE

BETA = .000 BDFLA. = -18.000
ELEVON = .000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDBRK = .000

PARAMETRIC DATA

RUN NO. 182/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

| WACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|----------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.220 | -1.25970 | .03390 | .04340 | -.26150 | .01469 | -.00120 | .00070 | .00400 | .71000 | .03361 |
| .260 | -2.120 | -1.16270 | .02640 | .04260 | -.16350 | .02037 | -.00120 | .00060 | .00400 | .74600 | .03350 |
| .260 | -.040 | -.06720 | .02190 | .04240 | -.06720 | .02166 | -.00130 | .00050 | .00400 | .68200 | .03375 |
| .260 | 2.050 | .02690 | .02090 | .04360 | .02760 | .02001 | -.00120 | .00040 | .00300 | .06700 | .03276 |
| .260 | 4.130 | .12080 | .02230 | .04470 | .12210 | .01358 | -.00120 | .00030 | .00400 | .51500 | .03326 |
| .260 | 6.250 | .22080 | .02900 | .04410 | .22260 | .00477 | -.00120 | .00010 | .00400 | .57600 | .03211 |
| .260 | 8.360 | .31990 | .03680 | .04290 | .32220 | -.00808 | -.00130 | .00000 | .00400 | .60000 | .03172 |
| .260 | 10.460 | .42150 | .05360 | .04340 | .42430 | -.02377 | -.00150 | -.00010 | .00500 | .61200 | .03263 |
| .260 | 12.560 | .52470 | .07440 | .04390 | .52630 | -.04168 | -.00160 | .00000 | .00600 | .61900 | .03366 |
| .260 | 14.700 | .63150 | .10270 | .04230 | .63690 | -.06093 | -.00210 | .00040 | .00700 | .62500 | .03497 |
| .260 | 16.800 | .74450 | .14050 | .03680 | .75330 | -.08030 | -.00290 | .00150 | .00800 | .63100 | .03671 |
| .260 | 18.940 | .85250 | .21340 | .02320 | .87560 | -.07486 | -.01340 | -.00480 | .03000 | .64000 | .04000 |
| .260 | 21.060 | .96440 | .28070 | .01390 | 1.00080 | -.08504 | -.01230 | -.00740 | .02900 | .64400 | .04314 |
| .260 | 23.190 | 1.05890 | .36120 | .00600 | 1.11520 | -.08581 | -.00710 | -.00530 | .02100 | .64700 | .04759 |
| .260 | 25.290 | 1.13300 | .43690 | .00830 | 1.21100 | -.08902 | -.00370 | -.00180 | .01200 | .64700 | .05296 |
| .260 | 27.360 | 1.18150 | .50710 | .01870 | 1.28240 | -.09311 | -.00230 | -.00070 | .00900 | .64400 | .05684 |
| .260 | 29.360 | 1.14810 | .53460 | .05660 | 1.26280 | -.09747 | -.00220 | -.00040 | .02100 | .63300 | .06669 |
| .260 | 31.320 | 1.04740 | .53640 | .10840 | 1.17360 | -.08639 | -.00040 | -.01170 | .02500 | .61500 | .07536 |
| | GRADIENT | .04555 | -.00138 | .00017 | .04592 | -.00012 | .00000 | -.00005 | -.00005 | -.05124 | -.00009 |

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TABULATED SOURCE DATA - NAAL 7058 (04218)

PAGE 6

(RDP183) (19 JUL 73)

04218 519C7 M4F5 W0TE2SVTR6

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = 5.000 130FLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPOBRK = .000

RUN NO. 185/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAP | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.240 | -.25880 | .02860 | .03930 | -.26320 | .00937 | .00550 | .00260 | -.06500 | .71500 | .03994 |
| .260 | -2.150 | -.16220 | .02210 | .03840 | -.16290 | .01607 | .00540 | .00110 | -.06500 | .73600 | .03495 |
| .260 | -.050 | -.06640 | .01740 | .03810 | -.06640 | .01736 | .00520 | -.00050 | -.06500 | .86100 | .03545 |
| .260 | 2.040 | .02790 | .01600 | .03960 | .02840 | .01506 | .00530 | -.00190 | -.06500 | .13600 | .03540 |
| .260 | 4.150 | .12170 | .01610 | .04080 | .12270 | .00926 | .00500 | -.00290 | -.06400 | .52700 | .03500 |
| .260 | 6.250 | .21980 | .02480 | .04040 | .22120 | .00077 | .00450 | -.00400 | -.06200 | .58200 | .03502 |
| .260 | 8.340 | .31840 | .03440 | .04030 | .32000 | -.01215 | .00420 | -.00540 | -.06100 | .60300 | .03565 |
| .260 | 10.460 | .42250 | .04980 | .03970 | .42450 | -.02762 | .00420 | -.00570 | -.06000 | .61500 | .03512 |
| .260 | 12.590 | .52550 | .07150 | .03910 | .52840 | -.04478 | .00320 | -.00910 | -.05900 | .62200 | .03501 |
| .260 | 14.690 | .63490 | .09980 | .03570 | .63950 | -.06425 | .00190 | -.01070 | -.05700 | .62900 | .03616 |
| .260 | 16.790 | .74640 | .13690 | .03250 | .75450 | -.08304 | .00190 | -.01070 | -.05500 | .63300 | .03730 |
| .260 | 18.910 | .86530 | .20320 | .02020 | .88450 | -.08836 | -.00590 | -.01300 | -.06000 | .64100 | .03966 |
| .260 | 21.060 | .97250 | .27160 | .01250 | 1.00510 | -.09613 | -.00320 | -.01510 | -.06600 | .64500 | .04315 |
| .260 | 23.150 | 1.06670 | .34060 | .01010 | 1.11470 | -.10626 | -.00250 | -.01640 | -.06300 | .64800 | .04559 |
| .260 | 25.280 | 1.14020 | .43670 | .00150 | 1.21760 | -.09204 | .00330 | -.00910 | -.07800 | .64900 | .05197 |
| .260 | 27.410 | 1.18800 | .50710 | .01180 | 1.28810 | -.09674 | .00350 | -.00970 | -.07500 | .64800 | .05938 |
| .260 | 29.560 | 1.14050 | .52980 | .03130 | 1.25360 | -.08753 | -.00170 | -.01710 | -.04900 | .63400 | .06693 |
| .260 | 31.300 | 1.05470 | .53480 | .09690 | 1.17910 | -.09100 | -.00050 | -.01640 | -.04900 | .61900 | .07540 |
| GRADIENT | | .04535 | -.00129 | .00020 | .04564 | -.00006 | -.00005 | -.00067 | .00010 | -.04552 | -.00007 |

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TABULATED SOURCE DATA - NAAL 7058 (0A21B)

PAGE 7

0A21B B19C7 MAF5 W107E23V7R6

(RDP104) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 94.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -10.000
 ELEVON = .000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPDRK = 25.000

RUN NO. 104/ 0 RM/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.240 | -2.7140 | .04190 | .05220 | -.27580 | .02176 | -.00060 | .00040 | .00400 | .72000 | .03682 |
| .260 | -2.130 | -1.7540 | .03580 | .05140 | -.17450 | .02737 | -.00060 | .00030 | .00300 | .75800 | .03678 |
| .260 | -.040 | -.07690 | .02910 | .05090 | -.07690 | .02911 | -.00070 | .00030 | .00200 | .69300 | .03653 |
| .260 | 2.090 | .01910 | .02800 | .05200 | .02010 | .02732 | -.00070 | .00010 | .00200 | -.29900 | .03504 |
| .260 | 4.140 | .11390 | .02870 | .05240 | .11560 | .02048 | -.00070 | .00020 | .00200 | .48200 | .03603 |
| .260 | 6.260 | .21260 | .03470 | .05180 | .21510 | .01131 | -.00070 | .00010 | .00200 | .56100 | .03449 |
| .260 | 8.350 | .31170 | .04480 | .05080 | .31480 | -.00110 | -.00100 | -.00010 | .00400 | .58000 | .03390 |
| .260 | 10.460 | .41420 | .05890 | .05130 | .41800 | -.01770 | -.00120 | -.00030 | .00500 | .60400 | .03496 |
| .260 | 12.560 | .51510 | .07930 | .05140 | .52000 | -.03479 | -.00140 | -.00010 | .00500 | .61300 | .03562 |
| .260 | 14.700 | .62310 | .10700 | .04980 | .62980 | -.05458 | -.00170 | .00040 | .00500 | .62000 | .03725 |
| .260 | 16.790 | .73590 | .14380 | .04420 | .74600 | -.07490 | -.00220 | .00130 | .00700 | .62800 | .03911 |
| .260 | 18.920 | .84480 | .21610 | .02980 | .86920 | -.06955 | -.01290 | -.00500 | .02900 | .63700 | .04252 |
| .260 | 21.030 | .95150 | .28190 | .02190 | .98930 | -.07839 | -.01180 | -.00790 | .02800 | .64200 | .04444 |
| .260 | 23.170 | 1.04650 | .36050 | .01340 | 1.10400 | -.08043 | -.00690 | -.00610 | .02100 | .64500 | .04931 |
| .260 | 25.300 | 1.12520 | .43570 | .01560 | 1.20390 | -.08692 | -.00390 | -.00380 | .01400 | .64500 | .05466 |
| .260 | 27.360 | 1.17070 | .50640 | .02610 | 1.27250 | -.08836 | -.00140 | -.00190 | .00800 | .64200 | .06046 |
| .260 | 29.360 | 1.14370 | .53800 | .06290 | 1.26060 | -.09248 | -.00360 | -.00380 | .01700 | .63100 | .06746 |
| .260 | 31.300 | 1.03610 | .53880 | .11770 | 1.16370 | -.08056 | .00130 | -.01300 | .02200 | .61200 | .07550 |
| GRADIENT | | .04596 | -.00154 | .00005 | .04649 | -.00012 | -.00000 | -.00003 | -.00024 | -.07316 | -.00016 |

QA21B 919C7 M4F5 W1D7E23V7R6

(RDP185) (19 JUL 73)

REFERENCE DATA

| | | | |
|---------|----------------|--------|----------------|
| SREF = | 4.4119 SQ.FT. | XGRP = | 43,5974 INCHES |
| LREF = | 19,2299 INCHES | YGRP = | .0000 INCHES |
| ZREF = | 37,9359 INCHES | ZGRP = | 16,2000 INCHES |
| SCALE = | .0405 SCALE | | |

PARAMETRIC DATA

| | | | | | |
|--------|---|--------|--------|---|---------|
| BETA | = | 5.000 | BDFAP | = | -10.000 |
| ELEVON | = | .000 | ATLRON | = | .000 |
| VTLINC | = | .000 | RUDDER | = | .000 |
| SPDRBK | = | 25.000 | | | |

| RUN NO. | 18% O | RN/L = | 1.85 | GRADIENT INTERVAL = | -5.00/ | 5.00 |
|---------|-------|--------|------|---------------------|--------|------|
|---------|-------|--------|------|---------------------|--------|------|

| WACH | ALPHA | CL | COF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|-------------|--------|---------|--------|--------|---------|---------|--------|---------|---------|---------|---------|
| .260 | -4.240 | -.26600 | .03610 | .04790 | -.26790 | .01636 | .00700 | .00190 | -.09000 | .71500 | .03965 |
| .260 | -2.140 | -.16750 | .02930 | .04670 | -.16850 | .02309 | .00690 | .00040 | -.09000 | .75100 | .05846 |
| .260 | -.050 | -.07180 | .02440 | .04650 | -.07180 | .02437 | .00680 | -.00100 | -.09000 | .68800 | .03653 |
| .260 | 2.040 | .02210 | .02390 | .04760 | .02300 | .02317 | .00700 | -.00270 | -.09100 | -.11100 | .03723 |
| .260 | 4.130 | .11710 | .02540 | .04830 | .11660 | .01697 | .00700 | -.00360 | -.08900 | .49900 | .03744 |
| .260 | 6.260 | .21670 | .03050 | .04660 | .21870 | .00671 | .00690 | -.00310 | -.08900 | .57100 | .03797 |
| .260 | 8.330 | .31990 | .04000 | .04590 | .31840 | -.00819 | .00690 | -.00660 | -.08700 | .59700 | .03795 |
| .260 | 10.460 | .41930 | .05920 | .04530 | .42230 | -.02198 | .00700 | -.00900 | -.08600 | .61000 | .03749 |
| .260 | 12.580 | .52290 | .07660 | .04440 | .52710 | -.03997 | .00630 | -.01090 | -.08300 | .61800 | .03733 |
| .260 | 14.680 | .63090 | .10540 | .04220 | .63660 | -.05784 | .00530 | -.01070 | -.08100 | .62900 | .03856 |
| .260 | 16.760 | .73960 | .14330 | .03930 | .74930 | -.07634 | .00390 | -.01140 | -.07900 | .63000 | .03917 |
| .260 | 18.940 | .85830 | .20710 | .02740 | .87900 | -.08278 | .00410 | -.01360 | -.06500 | .63700 | .04108 |
| .260 | 21.040 | .96300 | .27230 | .02130 | .99650 | -.09170 | .00270 | -.01660 | -.06700 | .64100 | .04408 |
| .260 | 23.190 | 1.06140 | .34410 | .01780 | 1.11120 | -.10166 | .00070 | -.01690 | -.06600 | .64300 | .04623 |
| .260 | 25.300 | 1.13790 | .43660 | .01090 | 1.21480 | -.09124 | .00420 | -.01140 | -.06700 | .64800 | .05216 |
| .260 | 27.400 | 1.16720 | .51240 | .01780 | 1.26960 | -.09145 | .00520 | -.00810 | -.06200 | .64400 | .05951 |
| .260 | 29.360 | 1.14020 | .57600 | .05610 | 1.25690 | -.09246 | .00380 | -.01770 | -.05200 | .63200 | .06859 |
| .260 | 31.380 | 1.05390 | .54060 | .10220 | 1.18150 | -.08592 | .00030 | -.01470 | -.05400 | .61700 | .07504 |
| GRAND TOTAL | | -.00126 | .00008 | .00008 | .04610 | .00006 | .00000 | -.00069 | .00014 | -.06183 | -.00027 |

REFERENCE DATA

GREY = 4.4119 SQ.FT. 1000' = 43.5974 INCHES
 BLUE = 19.2299 INCHES 1000' = .0700 INCHES
 GREY = 37.9359 INCHES 2000' = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| ALPHA = | .000 | BDFLAP = | -16.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTLINC = | .000 | RUDDER = | .000 |
| SPDRBK = | 25.000 | | |

| | | | |
|---------|--------|-------------|---------------------------------|
| RUN NO. | 106/ D | RN/L = 1.85 | GRADIENT INTERVAL = -5.00/ 5.00 |
|---------|--------|-------------|---------------------------------|

| | BETA | CL | CDF | CLM | ON | CAF | CYN | CBL | CY | XCP/L | CAB |
|--------|---------|---------|--------|--------|---------|--------|---------|---------|---------|--------|--------|
| .000H | -10.150 | -.05160 | .01690 | .03750 | -.05160 | .01687 | -.01830 | .00410 | .19100 | .91500 | .03972 |
| .200 | -5.070 | -.06750 | .02640 | .04820 | -.06750 | .02641 | -.00830 | .00200 | .09400 | .90100 | .02691 |
| .400 | .000 | -.07400 | .02900 | .05080 | -.07400 | .02906 | -.00070 | .00030 | .00200 | .90200 | .03644 |
| .600 | 5.060 | -.07010 | .02490 | .04600 | -.07010 | .02493 | .00700 | -.00110 | -.06900 | .89100 | .03879 |
| .800 | 10.140 | -.05960 | .01450 | .03900 | -.05960 | .01447 | .01680 | -.00300 | -.18800 | .90000 | .04064 |
| SIGNIF | | | .00000 | .00000 | | .00000 | .00000 | .00000 | | .00000 | .00000 |

REFERENCE DATA

| | | | | | |
|---------|---------|--------|--------|---------|--------|
| SREF = | 4.4119 | S&I.T. | XGRP = | 43,5974 | INCHES |
| UREF = | 19.2299 | INCHES | YGRP = | .0000 | INCHES |
| ZREF = | 37.9339 | INCHES | ZGRP = | 16,2000 | INCHES |
| SCALE = | .0405 | SCALE | | | |

RUN NO. 187/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

REFERENCE DATA

| | | | |
|---------|----------------|-------|----------------|
| REF = | 4.4119 SQ.FT. | XRP = | 45.9974 INCHES |
| REF = | 19.2299 INCHES | YRP = | .0000 INCHES |
| REF = | 37.9359 INCHES | ZRP = | 16.2000 INCHES |
| SCALE = | .0005 SCALE | | |

RUN NO. 188/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.02/ 5.00

| MACH | BETA | CL | CDF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|---------|--------|--------|--------|--------|---------|---------|--------|---------|--------|--------|
| .260 | -10.130 | .43070 | .05070 | .03750 | .43260 | -.02837 | -.01990 | .01920 | .01800 | .61770 | .04134 |
| .260 | -5.060 | .42090 | .05660 | .04570 | .42420 | -.02072 | -.01010 | .00920 | .09500 | .61000 | .03588 |
| .26C | .020 | .41600 | .05900 | .05100 | .41960 | -.01749 | -.00130 | .00030 | .00500 | .60500 | .03515 |
| .260 | 5.070 | .41980 | .05990 | .04510 | .42500 | -.02126 | .00750 | .00920 | -.08770 | .61000 | .03707 |
| .260 | 10.160 | .43100 | .04850 | .03560 | .43260 | -.03019 | .01660 | .01200 | -.01890 | .61900 | .04417 |
| | | | | | | | .00000 | .00000 | .00000 | .00000 | .00000 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A21B)

PAGE 10

(RDP189) (19 JUL 73)

0A21B B19C7 MAF5 W07E23V7R6

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 RREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 189/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

| MACH | BETA | CL | CLM | CLN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| .260 | -10.150 | .70430 | .02360 | .71140 | -.07231 | -.02140 | .02450 | .19200 | .63700 | .04136 |
| .260 | -5.060 | .66260 | .04200 | .69050 | -.06602 | -.01000 | .01290 | .09400 | .62700 | .03733 |
| .260 | .010 | .67730 | .04690 | .68580 | -.06343 | -.00210 | .00390 | .00500 | .62400 | .03754 |
| .260 | 5.070 | .66660 | .04060 | .69440 | -.06722 | .00480 | -.01100 | -.08100 | .62800 | .03845 |
| .260 | 10.150 | .71790 | .02010 | .72520 | -.07320 | .01490 | -.02400 | -.17800 | .63900 | .04313 |
| GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

ALPHA = 15.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPDBRK = 25.000

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 RREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 190/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

| MACH | BETA | CL | CLM | CLN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|--------|--------|---------|---------|---------|---------|---------|--------|--------|
| .260 | -10.120 | .99930 | .00360 | 1.00040 | -.07136 | -.03030 | .01960 | .20800 | .65100 | .04816 |
| .260 | -5.060 | .94740 | .01430 | .98760 | -.07149 | -.01980 | .00500 | .11600 | .64400 | .04336 |
| .260 | .020 | .95450 | .02100 | .99280 | -.07604 | -.01200 | -.00770 | .03000 | .64200 | .04512 |
| .260 | 5.060 | .96660 | .02050 | 1.00080 | -.09110 | -.00240 | -.01670 | -.06600 | .64200 | .04437 |
| .260 | 10.150 | .99800 | .00230 | 1.02770 | -.10289 | .00610 | -.03170 | -.16100 | .64800 | .04863 |
| GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

ALPHA = 20.000 BDFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPDBRK = 25.000

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 705B (0A21B)

PAGE 11

(RDP191) (19 JUL 73)

0A21B B19C7 MAF5 W112E23V7R6

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPOBRK = 25.000

RUN NO. 191/ 0 RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.140 | -.23160 | .03990 | -.23390 | .02314 | -.00050 | -.00080 | .00200 | .69300 | .03739 |
| .160 | -2.080 | -.13620 | .03380 | -.13740 | .02891 | -.00060 | -.00090 | .00200 | .72400 | .03635 |
| .160 | -.010 | -.04330 | .03020 | -.04330 | .03020 | -.00050 | -.00080 | .00100 | .89100 | .03632 |
| .160 | 2.020 | .04400 | .02840 | .04500 | .02688 | -.00050 | -.00070 | .00100 | .38200 | .03666 |
| .160 | 4.060 | .13520 | .03370 | .13710 | .02207 | -.00060 | -.00080 | .00200 | .55900 | .03622 |
| .160 | 6.130 | .23180 | .03730 | .23450 | .01231 | -.00080 | -.00110 | .00200 | .59700 | .03547 |
| .160 | 8.200 | .32950 | .04720 | .33290 | -.00021 | -.00090 | -.00140 | .00200 | .61100 | .03528 |
| .160 | 10.260 | .42760 | .05210 | .43180 | -.01507 | -.00120 | -.00140 | .00300 | .61900 | .03526 |
| .160 | 12.320 | .52570 | .05650 | .53110 | -.03181 | -.00150 | -.00120 | .00400 | .62400 | .03619 |
| .160 | 14.380 | .62640 | .06070 | .63380 | -.05128 | -.00210 | -.00050 | .00500 | .62800 | .03756 |
| .160 | 16.460 | .73380 | .06490 | .74480 | -.06898 | -.00260 | -.00070 | .00600 | .63300 | .03829 |
| .160 | 18.530 | .84420 | .06960 | .86710 | -.06950 | -.01210 | -.00410 | .02500 | .64100 | .04095 |
| .160 | 20.610 | .95220 | .07150 | .98680 | -.08119 | -.01380 | -.00820 | .03000 | .64500 | .04490 |
| .160 | 22.680 | 1.04980 | .07370 | 1.10400 | -.08091 | -.00820 | -.00700 | .02100 | .64800 | .04889 |
| .160 | 24.790 | 1.11550 | .07780 | 1.18920 | -.08574 | -.00380 | -.00350 | .01200 | .64700 | .05402 |
| .160 | 26.800 | 1.17630 | .08120 | 1.27150 | -.09191 | -.00170 | -.00200 | .00900 | .64500 | .05804 |
| .160 | 28.810 | 1.19380 | .08490 | 1.30860 | -.09786 | -.00320 | -.00150 | .01900 | .63900 | .06439 |
| .160 | 30.780 | 1.09330 | .05760 | 1.22110 | -.08650 | -.00230 | -.01600 | .03300 | .62100 | .07237 |
| .160 | | .04458 | -.00107 | .04509 | -.00020 | -.00000 | .00001 | -.00005 | -.02963 | -.00010 |

GRADIENT

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A218)

PAGE 12

0A218 B19C7 MAF5 W12E23V7R6

(RDP192) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SFDPRK = .000

RUN NO. 192/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.140 | -.22360 | .03210 | -.22350 | .01586 | -.00140 | -.07020 | .00300 | .67900 | .03481 |
| .160 | -2.070 | -.13000 | .02610 | -.13090 | .02144 | -.00120 | -.00020 | .00300 | .70000 | .03371 |
| .160 | .000 | -.03530 | .02270 | -.03530 | .02274 | -.00130 | -.00030 | .00300 | .83300 | .03416 |
| .160 | 2.020 | .09010 | .01120 | .05080 | .01943 | -.00140 | -.00030 | .00300 | .48000 | .03449 |
| .160 | 4.090 | .14290 | .02490 | .14430 | .01463 | -.00130 | -.00020 | .00200 | .58600 | .03284 |
| .160 | 6.120 | .23710 | .03160 | .23910 | .00622 | -.00150 | -.00050 | .00300 | .61100 | .03194 |
| .160 | 8.190 | .33360 | .04200 | .33640 | -.00593 | -.00160 | -.00090 | .00300 | .62100 | .03170 |
| .160 | 10.300 | .43480 | .05750 | .43610 | -.02113 | -.00170 | -.00070 | .00400 | .62700 | .03211 |
| .160 | 12.340 | .53110 | .07700 | .53520 | -.03633 | -.00210 | -.00080 | .00500 | .63000 | .03336 |
| .160 | 14.390 | .63170 | .10350 | .63760 | -.05677 | -.00270 | -.0010 | .00600 | .63300 | .03534 |
| .160 | 16.460 | .74010 | .14050 | .74960 | -.07506 | -.00300 | -.00120 | .00700 | .63700 | .03618 |
| .160 | 18.540 | .85290 | .20380 | .87410 | -.07616 | -.01260 | -.00360 | .02600 | .64400 | .03923 |
| .160 | 20.630 | .95780 | .26860 | .99100 | -.08609 | -.01470 | -.00780 | .03100 | .64800 | .04213 |
| .160 | 22.690 | 1.05420 | .34760 | 1.10670 | -.08606 | -.00910 | -.00640 | .02300 | .65100 | .04654 |
| .160 | 24.740 | 1.12450 | .41910 | 1.19670 | -.09003 | -.00480 | -.00280 | .01500 | .65000 | .05219 |
| .160 | 26.830 | 1.18770 | .49030 | 1.28110 | -.09869 | -.00240 | -.00100 | .01000 | .64800 | .05790 |
| .160 | 28.820 | 1.20560 | .54350 | 1.31830 | -.10316 | -.00430 | -.00370 | .02000 | .64200 | .06425 |
| .160 | 30.790 | 1.10400 | .54920 | 1.22950 | -.09338 | -.00430 | -.01280 | .03400 | .62500 | .07134 |
| GRADIENT | | .04445 | -.00094 | .04483 | -.00021 | .00000 | -.00000 | -.00010 | -.01960 | -.00015 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A21B)

PAGE 13

0A213 B19C7 H4F5 W107E23V7R6

(HCP193) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -10.000
 FLEVON = .000 AILRCN = .000
 VTINC = .000 RUDDER = .000
 SPDBRX = 55.000

RUN NO. 193/ 0 ROLL = 1.84 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.250 | -.29420 | .06180 | .08020 | -.29800 | .03984 | -.00160 | .00090 | .00500 | .74800 | .04710 |
| .260 | -2.170 | -.19740 | .05330 | .07910 | -.19950 | .04580 | -.00170 | .00280 | .00400 | .79300 | .04650 |
| .260 | -.050 | -.09990 | .04840 | .07820 | -.09990 | .04831 | -.00150 | .00080 | .00300 | .93800 | .04506 |
| .260 | 2.030 | -.00790 | .04530 | .07840 | -.00830 | .04564 | -.00160 | .00080 | .00300 | 5.22100 | .04491 |
| .260 | 4.130 | .08800 | .04660 | .07950 | .09110 | .04021 | -.00160 | .00080 | .00300 | .52800 | .04345 |
| .260 | 6.250 | .16670 | .05180 | .07810 | .19120 | .03117 | -.00150 | .00080 | .00300 | .49900 | .04170 |
| .260 | 8.320 | .28440 | .05980 | .07800 | .29010 | .01804 | -.00170 | .00100 | .00500 | .59000 | .04151 |
| .260 | 10.450 | .38630 | .07370 | .07850 | .39330 | .00239 | -.00210 | .00100 | .00500 | .57800 | .04097 |
| .260 | 12.570 | .48910 | .09290 | .07740 | .49760 | -.01578 | -.00240 | .00090 | .00500 | .59100 | .04193 |
| .260 | 14.600 | .59640 | .11970 | .07730 | .60750 | -.03535 | -.00290 | .00180 | .00600 | .60200 | .04319 |
| .260 | 16.800 | .70980 | .15610 | .07740 | .72460 | -.05579 | -.00360 | .00140 | .00600 | .61400 | .04487 |
| .260 | 18.930 | .81540 | .22680 | .07770 | .84490 | -.05002 | -.00360 | .00140 | .00600 | .62400 | .04766 |
| .260 | 21.060 | .92710 | .29150 | .04910 | .96990 | -.08122 | -.00250 | .00120 | .00600 | .63100 | .05158 |
| .260 | 23.160 | 1.01900 | .36810 | .04220 | 1.08170 | -.06240 | -.00270 | .00100 | .00600 | .63100 | .05540 |
| .260 | 25.270 | 1.09340 | .44400 | .04440 | 1.17830 | -.06546 | -.00420 | .00100 | .00600 | .63500 | .05914 |
| .260 | 27.400 | 1.15060 | .51610 | .05260 | 1.25900 | -.07135 | -.00290 | .00100 | .00600 | .63400 | .06480 |
| .260 | 29.380 | 1.12040 | .54710 | .08700 | 1.25170 | -.07700 | -.00180 | .00100 | .00600 | .62400 | .07168 |
| .260 | 31.320 | 1.02220 | .54890 | .13670 | 1.15750 | -.06434 | .00060 | .00100 | .00600 | .60500 | .07549 |
| .260 | | .04551 | -.00183 | -.00010 | .04634 | .00003 | .00000 | -.00002 | -.00024 | .17072 | -.00043 |

GRADIENT

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (04218)

PAGE 14

(RCP194) (19 JUL 73)

04218 B19C7 MAF5 W107E23V7R6

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = 5.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTILNC = .000 RUDDER = .000
 SPDBRK = 55.000

RUN NO. 194/ 0 RN/L = 1.84 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.250 | -.29070 | .05530 | .07440 | -.29410 | .03364 | .00550 | .00280 | -.08900 | .74270 | .04994 |
| .260 | -2.140 | -.19420 | .04810 | .07580 | -.19590 | .04079 | .00550 | .00130 | -.06500 | .70900 | .04870 |
| .260 | -.060 | -.09840 | .04260 | .07300 | -.09840 | .04270 | .00570 | -.00020 | -.00000 | .92200 | .04796 |
| .260 | 2.030 | -.00580 | .03970 | .07260 | -.00440 | .03996 | .00610 | -.00200 | -.08600 | 6.62900 | .04774 |
| .260 | 4.150 | .09170 | .03920 | .07000 | .09430 | .03249 | .00640 | -.00310 | -.00700 | .57670 | .04791 |
| .260 | 6.240 | .19270 | .04270 | .06680 | .19610 | .02162 | .00640 | -.00450 | -.00600 | .52400 | .04711 |
| .260 | 8.330 | .29250 | .05290 | .06650 | .29710 | .01001 | .00670 | -.00830 | -.00600 | .56700 | .04541 |
| .260 | 10.450 | .36140 | .06760 | .06800 | .39720 | -.00446 | .00870 | -.00840 | -.00500 | .58800 | .04420 |
| .260 | 12.530 | .49200 | .08790 | .06820 | .50020 | -.02117 | .00590 | -.00960 | -.00200 | .59900 | .04340 |
| .260 | 14.670 | .60550 | .11550 | .06600 | .61500 | -.04157 | .00460 | -.00900 | -.00000 | .61000 | .04549 |
| .260 | 16.800 | .71590 | .15360 | .06390 | .72960 | -.05996 | .00260 | -.01070 | -.07500 | .61700 | .04600 |
| .260 | 18.930 | .83270 | .21660 | .05480 | .85800 | -.06511 | -.00510 | -.01310 | -.06100 | .62600 | .04779 |
| .260 | 21.060 | .95590 | .28100 | .04690 | .97440 | -.07417 | -.00410 | -.01620 | -.06300 | .63200 | .04914 |
| .260 | 23.170 | 1.03150 | .35020 | .04350 | 1.08320 | -.08396 | -.00230 | -.01590 | -.06400 | .63500 | .05161 |
| .260 | 25.290 | 1.10780 | .44660 | .03590 | 1.19250 | -.08957 | .00290 | -.00870 | -.07600 | .63900 | .05780 |
| .260 | 27.350 | 1.15570 | .51120 | .04290 | 1.26320 | -.07342 | .00270 | -.00680 | -.07600 | .63700 | .06345 |
| .260 | 29.370 | 1.12170 | .54330 | .07880 | 1.24400 | -.07670 | -.00330 | -.01710 | -.04400 | .62600 | .07187 |
| .260 | 31.310 | 1.04380 | .55080 | .12100 | 1.17800 | -.07206 | -.00370 | -.01290 | -.04600 | .61200 | .07560 |
| GRADIENT | | .04554 | -.00194 | -.00048 | .04626 | -.00015 | .00011 | -.00072 | -.00024 | .24341 | -.00025 |

0A21B B19C7 M4F5 W107E23V7R6

(00195) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SA.FT. XMRP = 43.5974 INCHES
 LREF = 19.2289 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 15.2500 INCHES
 SCALE = .0405 SCALE

PAKAMETRIC DATA

BETA = .000 BDFLAP = -1A.000
 ELEVEN = .000 ALLKON = .000
 VILINC = .000 RUDDER = .000
 SFCBRK = 85.000

RUN NO. 195/ 0 RNL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.280 | -.32540 | .06460 | .11240 | -.33080 | .06005 | -.00150 | .00060 | .00500 | .77400 | .06210 |
| .260 | -2.180 | -.22960 | .07460 | .11130 | -.23230 | .06584 | -.00170 | .00340 | .00500 | .82600 | .06160 |
| .260 | -.050 | -.13080 | .06840 | .11000 | -.13390 | .06820 | -.00180 | .00340 | .00400 | .95900 | .06011 |
| .260 | 2.020 | -.03760 | .06570 | .10960 | -.03530 | .06631 | -.00150 | .00340 | .00400 | 1.79100 | .05913 |
| .260 | 4.100 | .05420 | .06440 | .10930 | -.05870 | .06043 | -.00140 | .00320 | .00300 | -.03500 | .05716 |
| .260 | 6.220 | .15330 | .06030 | .10870 | .15980 | .05136 | -.00140 | .00310 | .00300 | .39900 | .05551 |
| .260 | 8.350 | .25270 | .07780 | .10840 | .26140 | .04025 | -.00140 | .00310 | .00300 | .49700 | .05228 |
| .260 | 10.430 | .35190 | .08970 | .10860 | .36220 | .02380 | -.00150 | .00300 | .00300 | .55900 | .05268 |
| .260 | 12.560 | .45310 | .10770 | .10960 | .46570 | .00655 | -.00170 | -.00310 | .00400 | .58200 | .05006 |
| .260 | 14.690 | .56230 | .13260 | .10770 | .57760 | -.01432 | -.00190 | .00300 | .00500 | .58130 | .05346 |
| .260 | 16.800 | .67620 | .16780 | .10430 | .69590 | -.03479 | -.00200 | .00120 | .00600 | .59600 | .05435 |
| .260 | 18.920 | .78730 | .22640 | .09500 | .82110 | -.03168 | -.00220 | -.00440 | .02500 | .61100 | .05759 |
| .260 | 21.050 | .89570 | .30040 | .07930 | .94390 | -.04148 | -.00280 | -.00340 | .02900 | .61800 | .06071 |
| .260 | 23.180 | .99290 | .37720 | .07360 | 1.06120 | -.04411 | -.00390 | -.00650 | .02300 | .62400 | .06365 |
| .260 | 25.270 | 1.05710 | .45030 | .07880 | 1.14820 | -.04405 | -.00410 | -.00160 | .01300 | .62400 | .06073 |
| .260 | 27.360 | 1.11860 | .52260 | .08670 | 1.23360 | -.05009 | -.00210 | -.00130 | .01000 | .62300 | .07297 |
| .260 | 29.400 | 1.18050 | .55960 | .11970 | 1.24050 | -.05660 | -.00030 | -.00400 | .01200 | .61400 | .07760 |
| .260 | 31.330 | 1.02730 | .54260 | .17160 | 1.15960 | -.07382 | .00260 | -.01830 | .02300 | .59500 | .08003 |
| GRADIENT | | .04538 | -.00239 | -.00036 | .04657 | .00006 | .00002 | -.00014 | -.00024 | -.03374 | -.00059 |

DATE 21 NOV 73 TABULATED SOURCE DATA - NAAL 7058 (04218)

04218 B19C7 M4F3 W107E23V7R6

(RCP106) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = 5.000 DDFLAP = -10.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDCK = 85.000

PARAMETRIC DATA

RUN NO. 196/ 0 RM/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .200 | -4.250 | -.32210 | .07890 | .10820 | -.32710 | .05486 | .00370 | .00330 | -.08700 | .77110 | .06467 |
| .200 | -2.150 | -.22450 | .07050 | .10640 | -.22700 | .06199 | .00190 | .00190 | -.08700 | .62200 | .06262 |
| .200 | -.050 | -.13170 | .04400 | .10530 | -.13170 | .06389 | .00560 | .00030 | -.08700 | .94300 | .07137 |
| .200 | 2.020 | -.03690 | .06070 | .10530 | -.03430 | .06201 | .00570 | -.00130 | -.08600 | 1.77000 | .00099 |
| .200 | 4.100 | .05820 | .05900 | .10380 | .06030 | .05480 | .00580 | -.00120 | -.08600 | .01800 | .06032 |
| .200 | 6.230 | .15800 | .06250 | .10160 | .16360 | .04499 | .00570 | -.00330 | -.08500 | .42100 | .05358 |
| .200 | 8.390 | .25850 | .07120 | .10040 | .26890 | .03295 | .00550 | -.00540 | -.08400 | .51000 | .05671 |
| .200 | 10.450 | .35680 | .06530 | .10130 | .36810 | .01866 | .00530 | -.00750 | -.08300 | .54800 | .05512 |
| .200 | 12.560 | .46050 | .10320 | .10200 | .47240 | .02822 | .00460 | -.00800 | -.08200 | .57000 | .05357 |
| .200 | 14.710 | .56980 | .13470 | .10270 | .56540 | -.01441 | .00310 | -.00920 | -.07600 | .58900 | .05298 |
| .200 | 16.800 | .67560 | .17240 | .10390 | .69660 | -.03086 | .00060 | -.00940 | -.07100 | .59400 | .05317 |
| .200 | 18.960 | .79480 | .23360 | .09330 | .82760 | -.03729 | -.00740 | -.01110 | -.05700 | .60800 | .05559 |
| .200 | 21.070 | .89680 | .29510 | .08590 | .94460 | -.04784 | -.00800 | -.01410 | -.05400 | .61800 | .05651 |
| .200 | 23.190 | .99570 | .36340 | .08130 | 1.05630 | -.05905 | -.00640 | -.01390 | -.05400 | .62100 | .05934 |
| .200 | 25.310 | 1.07370 | .45730 | .07090 | 1.16800 | -.04894 | -.00060 | -.00810 | -.06700 | .62700 | .06593 |
| .200 | 27.590 | 1.12750 | .52560 | .07800 | 1.24820 | -.05163 | -.00030 | -.00680 | -.06700 | .62800 | .07164 |
| .200 | 29.410 | 1.10210 | .59710 | .11120 | 1.25370 | -.05991 | -.00560 | -.01810 | -.03600 | .61800 | .07603 |
| .200 | 31.350 | 1.03250 | .55030 | .15180 | 1.16790 | -.06724 | -.00660 | -.01260 | -.03800 | .60200 | .07677 |
| GRADIENT | | .04326 | -.00238 | -.00047 | .74636 | .00001 | .00001 | -.00069 | .00014 | -.02836 | -.00050 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A218)

PAGE 17

(RDP197) (19 JUL 73)

0A218 B19C7 M4F5 W107E23V7R6

REFERENCE DATA

SREF = 4.4119 SQ.FT. YMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .0000 BCFLAP = -16.000
 ELEVON = -5.000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPOBRK = 25.000

RUN NO. 197/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

| MAOH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CBL | CY | KCP/L | CAB |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|
| .260 | -4.330 | -36390 | .05160 | .10160 | -38670 | .02254 | -.00120 | .00200 | .00600 | .74600 | .03461 |
| .260 | -8.240 | -28900 | .04060 | .10020 | -28640 | .02943 | -.00110 | .00190 | .00600 | .77600 | .03479 |
| .260 | -1.120 | -10320 | .03240 | .09910 | -18530 | .03204 | -.00110 | .00170 | .00500 | .84600 | .03450 |
| .260 | 1.940 | -09060 | .02790 | .09900 | -08980 | .03102 | -.00110 | .00160 | .00500 | 1.05500 | .03559 |
| .260 | 4.030 | .00130 | .02640 | .10110 | .00310 | .02625 | -.00110 | .00160 | .00500 | -11.06100 | .03269 |
| .260 | 6.130 | .10030 | .02720 | .10130 | .10270 | .01620 | -.00120 | .00150 | .00500 | .26600 | .03591 |
| .260 | 8.280 | .20020 | .03350 | .10160 | .20300 | .00437 | -.00120 | .00130 | .00500 | .46700 | .03226 |
| .260 | 10.360 | .29960 | .04400 | .10060 | .30260 | -.01076 | -.00110 | .00130 | .00500 | .52700 | .03272 |
| .260 | 12.500 | .40570 | .06090 | .10070 | .40930 | -.02835 | -.00160 | .00130 | .00500 | .59500 | .03366 |
| .260 | 14.610 | .51350 | .08300 | .09690 | .51830 | -.04729 | -.00170 | .00170 | .00600 | .57900 | .03523 |
| .260 | 16.720 | .62850 | .11850 | .09360 | .63960 | -.06732 | -.00200 | .00220 | .00700 | .59500 | .03709 |
| .260 | 18.840 | .74030 | .16390 | .08670 | .75360 | -.08403 | -.00310 | .00190 | .00900 | .60600 | .03607 |
| .260 | 20.990 | .84660 | .24600 | .07110 | .86040 | -.07434 | -.00150 | -.00150 | .02600 | .62100 | .04203 |
| .260 | 23.100 | .94730 | .31160 | .06640 | .95360 | -.08512 | -.00190 | -.00490 | .02600 | .62500 | .04320 |
| .260 | 25.230 | 1.03350 | .39560 | .06150 | 1.10360 | -.08251 | -.00440 | -.00120 | .01400 | .62900 | .04994 |
| .260 | 27.350 | 1.09730 | .46740 | .06640 | 1.18960 | -.08612 | -.00260 | -.00160 | .01100 | .62900 | .05525 |
| .260 | 29.500 | 1.10330 | .51290 | .09330 | 1.21310 | -.09435 | -.00160 | -.00170 | .01800 | .62100 | .06234 |
| .260 | 31.310 | 1.00530 | .51480 | .14160 | 1.12850 | -.08279 | -.00010 | -.01620 | .03600 | .60300 | .07186 |
| .260 | GRADIENT | .04615 | -.00302 | -.00011 | .04671 | .07043 | .00001 | -.00003 | -.00014 | -1.11495 | -.00024 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A21B)

PAGE 18

0A21B B19C7 MAFS WIDTESVTR6

(RDP198) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = 5.000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDRK = 25.000

RUN NO. 198/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .200 | -4.170 | -1.7270 | .03590 | .00870 | -.17490 | .02328 | -.03150 | .03110 | .00500 | .66900 | .04005 |
| .200 | -2.070 | -.07690 | .03130 | .00770 | -.07780 | .02854 | -.00140 | .03100 | .00400 | .68600 | .03963 |
| .200 | .020 | .01940 | .03010 | .00750 | .01940 | .03015 | -.00140 | .03100 | .00400 | .50700 | .03842 |
| .200 | 2.110 | .11490 | .05090 | .00790 | .11590 | .02664 | -.00160 | .03090 | .00500 | .62400 | .03851 |
| .200 | 4.210 | .21130 | .03590 | .00770 | .21340 | .02030 | -.00160 | .03070 | .00400 | .63600 | .03764 |
| .200 | 6.310 | .31170 | .04450 | .00640 | .31470 | .01004 | -.00170 | .03050 | .00400 | .64200 | .03711 |
| .200 | 8.430 | .41100 | .05710 | .00560 | .41490 | -.00373 | -.00190 | .03020 | .00500 | .64400 | .03662 |
| .200 | 10.540 | .51070 | .07460 | .00590 | .51560 | -.02078 | -.00210 | .03010 | .00700 | .64500 | .03750 |
| .200 | 12.640 | .61020 | .08640 | .00660 | .61690 | -.03753 | -.00230 | .03010 | .00700 | .64500 | .03766 |
| .200 | 14.750 | .71560 | .12850 | .00350 | .72490 | -.05901 | -.00250 | .03050 | .00700 | .64700 | .03659 |
| .200 | 16.880 | .82830 | .17030 | .00030 | .84230 | -.07760 | -.00330 | .03190 | .00600 | .64900 | .04063 |
| .200 | 19.010 | .93590 | .24760 | -.01350 | .96360 | -.07060 | -.01480 | -.00690 | .03500 | .65000 | .04477 |
| .200 | 21.130 | 1.03910 | .31790 | -.02290 | 1.06390 | -.07680 | -.01360 | -.00900 | .03200 | .65700 | .04736 |
| .200 | 23.240 | 1.13010 | .40170 | -.02890 | 1.19690 | -.07680 | -.00730 | -.00520 | .02700 | .65600 | .05291 |
| .200 | 25.340 | 1.19630 | .47920 | -.02360 | 1.26630 | -.07908 | -.00360 | -.00170 | .01100 | .65600 | .05838 |
| .200 | 27.430 | 1.25090 | .54400 | -.00860 | 1.34310 | -.06434 | -.00260 | -.00160 | .01100 | .65100 | .06389 |
| .200 | 29.410 | 1.16820 | .55670 | .04480 | 1.29250 | -.06813 | -.00240 | -.01260 | .02900 | .63700 | .07369 |
| .200 | 31.390 | 1.05290 | .55330 | .10250 | 1.19710 | -.07492 | .00060 | -.01730 | .01400 | .61670 | .08216 |
| .200 | GRADIENT | .04582 | -.00002 | -.00009 | .04633 | -.00036 | -.00002 | -.00004 | -.00005 | -.00601 | -.00028 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 705B (0A21B)

PAGE 19

0A21B B19C7 M4F3 W107E23V7R6

(RDP199) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = 10.000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDGRK = 25.000

RUN NO. 199/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCF/L | CAB |
|----------|--------|---------|--------|---------|---------|---------|---------|---------|--------|---------|---------|
| .260 | -4.110 | -.06560 | .03480 | -.04130 | -.06790 | .03010 | -.00130 | .00130 | .00400 | .42500 | .04366 |
| .260 | -2.010 | .02960 | .03320 | -.04240 | .02870 | .03429 | -.00120 | .00140 | .00400 | 1.19300 | .04313 |
| .260 | .100 | .12740 | .03500 | -.04300 | .12740 | .03484 | -.00130 | .00130 | .00400 | .77400 | .04229 |
| .260 | 2.190 | .22350 | .03910 | -.04300 | .22480 | .03054 | -.00130 | .00130 | .00400 | .72000 | .04208 |
| .260 | 4.270 | .31760 | .04800 | -.04320 | .32030 | .02418 | -.00130 | .00110 | .00300 | .69900 | .04063 |
| .260 | 6.360 | .41480 | .05920 | -.04390 | .41680 | .01267 | -.00150 | .00090 | .00300 | .66800 | .04046 |
| .260 | 8.510 | .51340 | .07590 | -.04390 | .51900 | -.00183 | -.00160 | .00050 | .00300 | .68000 | .03922 |
| .260 | 10.590 | .61170 | .09610 | -.04300 | .61900 | -.01793 | -.00160 | .00020 | .00300 | .67500 | .04041 |
| .260 | 12.720 | .71170 | .12400 | -.04330 | .72160 | -.03574 | -.00200 | .00060 | .00600 | .67100 | .04027 |
| .260 | 14.810 | .81670 | .15810 | -.04530 | .83190 | -.03652 | -.00230 | .00110 | .00700 | .66900 | .04205 |
| .260 | 16.940 | .92030 | .20360 | -.05120 | .94730 | -.07586 | -.00300 | .00210 | .00700 | .66900 | .04350 |
| .260 | 19.080 | 1.03020 | .26600 | -.06250 | 1.06710 | -.06644 | -.01590 | -.00940 | .03600 | .67100 | .04801 |
| .260 | 21.210 | 1.13260 | .36220 | -.07130 | 1.18690 | -.07210 | -.01330 | -.01030 | .03300 | .67100 | .03036 |
| .260 | 23.320 | 1.20680 | .45110 | -.07370 | 1.28680 | -.06368 | -.00490 | -.00290 | .01400 | .67000 | .05711 |
| .260 | 25.410 | 1.26110 | .52450 | -.06490 | 1.36410 | -.06734 | -.01240 | -.00000 | .00700 | .66700 | .06213 |
| .260 | 27.470 | 1.27560 | .57790 | -.03680 | 1.39840 | -.07569 | -.01240 | -.00340 | .01300 | .65900 | .06023 |
| .260 | 29.410 | 1.18090 | .57470 | .02790 | 1.31100 | -.07946 | -.01300 | -.01940 | .04100 | .64100 | .08037 |
| .260 | 31.350 | 1.08020 | .57500 | .07790 | 1.22160 | -.07106 | -.00120 | -.00650 | .01100 | .62600 | .08460 |
| GRADIENT | | .04561 | .00154 | -.00021 | .04640 | -.00074 | -.00002 | -.00202 | .00010 | .00362 | -.00034 |

DATE 21 NOV 75

TABULATED 80% E DATA - NAAL 7038 (04218)

PAGE 20

04218 B19C7 M4 M10TE23V7R6

(RDP200) (19 JUL 75)

REFERENCE DATA

SREF = 4.4119 80.FT. XGRP = 43.5974 INCHES
 LREF = 19.2298 INCHES YGRP = .0000 INCHES
 BREF = 37.9399 INCHES ZGRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA .070 ELEVON = .000
 AIRLON = .000 VTLINC = .000
 RUDDER = .000 SFCBRK = 25.000

RUN NO. 200/ 0 RN/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

| MAON | ALPHA | CL | COF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .260 | -4.240 | -.25950 | .03670 | .04340 | -.26170 | .01939 | -.00170 | .00120 | .00600 | .71000 | .03659 |
| .260 | -2.140 | -.16140 | .03070 | .04230 | -.16230 | .02465 | -.00160 | .00120 | .00500 | .74500 | .03734 |
| .260 | -.030 | -.06430 | .02700 | .04170 | -.06490 | .02696 | -.00160 | .00100 | .00500 | .88800 | .03663 |
| .260 | 2.040 | .03060 | .02640 | .04270 | .03150 | .02533 | -.00150 | .00100 | .00400 | .15100 | .03601 |
| .260 | 4.170 | .12910 | .02760 | .04330 | .13080 | .01820 | -.00160 | .00080 | .00400 | .52700 | .03683 |
| .260 | 6.250 | .26620 | .03380 | .04230 | .22830 | .00698 | -.00170 | .00050 | .00400 | .58100 | .03599 |
| .260 | 8.340 | .32380 | .04460 | .04160 | .32690 | -.00279 | -.00200 | .00050 | .00600 | .60200 | .03494 |
| .260 | 10.460 | .42420 | .05680 | .04260 | .42780 | -.01919 | -.00220 | .00030 | .00600 | .61300 | .03611 |
| .260 | 12.570 | .52350 | .07960 | .04400 | .53020 | -.03670 | -.00250 | .00030 | .00700 | .62300 | .03756 |
| .260 | 14.690 | .62990 | .10770 | .04280 | .63680 | -.03553 | -.00270 | .00030 | .00700 | .63000 | .03885 |
| .260 | 16.820 | .74260 | .14490 | .03950 | .75290 | -.07623 | -.00320 | .00170 | .00600 | .65000 | .04149 |
| .260 | 18.920 | .84630 | .21730 | .02760 | .87110 | -.06894 | -.01430 | -.00490 | .00300 | .63800 | .04501 |
| .260 | 21.060 | .91320 | .28400 | .02130 | .99180 | -.07799 | -.01340 | -.00730 | .00300 | .64100 | .04626 |
| .260 | 23.270 | 1.04760 | .36220 | .01560 | 1.1360 | -.07975 | -.00820 | -.00530 | .02300 | .64400 | .05320 |
| .260 | 25.370 | 1.11670 | .43630 | .02010 | 1.19610 | -.08262 | -.00480 | -.00220 | .01400 | .64300 | .05811 |
| .260 | 27.360 | 1.16690 | .50590 | .03190 | 1.26690 | -.08743 | -.00290 | -.00160 | .01100 | .64000 | .06382 |
| .260 | 29.390 | 1.13490 | .53410 | .07190 | 1.25100 | -.08168 | -.00230 | -.00930 | .02200 | .62800 | .07140 |
| .260 | 31.320 | 1.02370 | .53000 | .12700 | 1.15000 | -.07944 | .00030 | -.01270 | .02600 | .60900 | .08042 |
| .260 | GRADIENT | .04615 | -.00126 | .00001 | .04662 | -.00008 | .00001 | -.00005 | -.00004 | -.04546 | -.00004 |

DATE 2: NOV 73

TABULATED SOURCE DATA - NAAL 705B (04218)

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04218 B19C7H3 M4F5 W107E23V7R6

(RDF201) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ETA = .000 BOFLAP = -18.000
 ELEVEN = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDGRK = 25.000 CANARD = .000

RUN NO. 201/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.170 | -2.9830 | .04340 | .04280 | -.26880 | .02392 | -.00140 | .00100 | .00500 | .70800 | .03627 |
| .160 | -2.110 | -.17020 | .03560 | .04540 | -.17140 | .02956 | -.00150 | .00090 | .00400 | .74700 | .03610 |
| .160 | -.030 | -.07610 | .03040 | .04840 | -.07610 | .03040 | -.00140 | .00090 | .00300 | .88400 | .03626 |
| .160 | 1.990 | .01340 | .03020 | .05380 | .01440 | .02973 | -.00150 | .00070 | .00400 | -.71800 | .03448 |
| .160 | 4.090 | .10830 | .03110 | .05790 | .11040 | .02336 | -.00130 | .00090 | .00400 | .45800 | .03490 |
| .160 | 6.110 | .20140 | .03540 | .06200 | .20400 | .01379 | -.00140 | .00050 | .00400 | .53800 | .03425 |
| .160 | 8.200 | .30380 | .04510 | .06220 | .30720 | .00135 | -.00160 | .00040 | .00400 | .57100 | .03481 |
| .160 | 10.360 | .40420 | .06110 | .06890 | .40860 | -.01184 | -.00210 | .00000 | .00700 | .58700 | .03444 |
| .160 | 12.320 | .51060 | .08100 | .07390 | .51620 | -.02983 | -.00240 | .00010 | .00700 | .59700 | .03631 |
| .160 | 14.400 | .61360 | .10910 | .07670 | .62190 | -.04697 | -.00280 | .00070 | .01300 | .60400 | .03712 |
| .160 | 16.500 | .72780 | .14560 | .07820 | .73920 | -.06713 | -.00320 | .00160 | .01100 | .61000 | .03912 |
| .160 | 18.550 | .84030 | .21340 | .06890 | .86460 | -.08503 | -.01250 | .00320 | .02900 | .62000 | .04139 |
| .160 | 20.840 | .94620 | .27530 | .06850 | .98260 | -.07600 | -.01310 | .00520 | .03100 | .62400 | .04442 |
| .160 | 22.710 | 1.05330 | .35920 | .05810 | 1.11090 | -.07552 | -.00830 | .00420 | .02500 | .63000 | .04877 |
| .160 | 24.760 | 1.13210 | .43600 | .05980 | 1.21060 | -.07830 | -.00820 | .00140 | .01800 | .63100 | .05177 |
| .160 | 26.050 | 1.20900 | .51250 | .06720 | 1.31930 | -.08841 | -.00960 | .00780 | .01400 | .63000 | .05746 |
| .160 | 28.060 | 1.23410 | .57500 | .08240 | 1.35740 | -.09441 | -.00400 | .00360 | .02400 | .62700 | .06348 |
| .160 | 30.850 | 1.16870 | .59930 | .12080 | 1.30560 | -.09334 | -.00280 | .01370 | .03400 | .61500 | .06970 |
| GRADIENT | | .04543 | -.00147 | .00188 | .04597 | -.00004 | .00001 | -.00003 | -.00010 | -.09540 | -.00021 |

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BOFLAP = -18.000
 ELEVEN = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDGRK = 25.000 CANARD = .000

RUN NO. 202/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|---------|--------|--------|---------|--------|---------|---------|---------|--------|--------|
| .160 | -10.070 | -.09900 | .01910 | .03480 | -.05910 | .01912 | -.01730 | .00400 | .19200 | .86700 | .03915 |
| .160 | -5.050 | -.07190 | .00910 | .04400 | -.07190 | .02912 | -.00830 | .00250 | .09600 | .87500 | .03580 |
| .160 | .000 | -.07790 | .03100 | .04620 | -.07790 | .03098 | -.00130 | .00090 | .00500 | .87700 | .03607 |
| .160 | 5.030 | -.07460 | .02750 | .04370 | -.07460 | .02751 | .00360 | -.00010 | .00500 | .86400 | .03744 |
| .160 | 10.060 | -.09930 | .01610 | .03490 | -.09930 | .01608 | .01470 | -.00180 | -.18300 | .66800 | .04093 |
| GRADIENT | | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

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(RDF202) (19 JUL 73)

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TABULATED SOURCE DATA - NAL 7058 (0A21B)

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0A21B B19C7H3 MAF5 W107E23V7R6

(RDP203) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 203/ 0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|
| .160 | -10.080 | .17350 | .02250 | .04560 | .17460 | .00701 | -.01835 | .01190 | .19100 | .55300 | .03956 |
| .160 | -5.040 | .16160 | .03150 | .05670 | .16370 | .01707 | -.00930 | .00610 | .09900 | .52300 | .03578 |
| .160 | .000 | .15700 | .03420 | .05950 | .15950 | .02008 | -.00140 | .00060 | .00900 | .51200 | .03431 |
| .160 | 5.020 | .16000 | .02960 | .05510 | .16200 | .01326 | .00590 | -.00440 | -.06600 | .52400 | .03765 |
| .160 | 10.070 | .17360 | .02030 | .04500 | .17470 | .02471 | .01490 | -.01000 | -.18100 | .55400 | .04217 |
| GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

PARAMETRIC DATA

ALPHA = 5.000 BDFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPD8RK = 25.000 CANARD = .000

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 204/ 0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|
| .160 | -10.080 | .17350 | .02250 | .04560 | .17460 | .00701 | -.01835 | .01190 | .19200 | .60100 | .04025 |
| .160 | -5.040 | .16160 | .03150 | .05670 | .16370 | .01707 | -.00930 | .01010 | .09900 | .59200 | .03876 |
| .160 | .000 | .15700 | .03420 | .05950 | .15950 | .02008 | -.00140 | .00000 | .00700 | .58700 | .03512 |
| .160 | 5.040 | .16000 | .02960 | .05510 | .16200 | .01326 | .00590 | -.00940 | -.06900 | .59300 | .03845 |
| .160 | 10.070 | .17360 | .02030 | .04500 | .17470 | .02471 | .01470 | -.01950 | -.18100 | .60400 | .04308 |
| GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPD8RK = 25.000 CANARD = .000

0A21B B19C7H3 M4F3 W1J7E23V7R6

(RCP205) (19 JUL 73)

REFERENCE DATA

| | | | | | |
|---------|---------|---------|-------|---------|--------|
| REF = | 4.4119 | 50. FT. | XRP = | 43.5974 | INCHES |
| LRP = | 19.2299 | INCHES | YRP = | .0000 | INCHES |
| BRP = | 37.9359 | INCHES | ZRP = | 16.2000 | INCHES |
| SCALE = | .0405 | SCALE | | | |

RUN NO. 205/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

REFERENCE DATA

SRF = 4.4119 SQ.FT. XRP = 45.9974 INCHES
LRF = 19.2299 INCHES YRP = .0000 INCHES
BRF = 57.9359 INCHES ZRP = 16.2000 INCHES
SCALE = .0405 SCALE

RUN NO. 206/ 0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

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TABULATED SOURCE DATA - NAAL 7058 (M21B)

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M21B B19C7H9 M4F5 W107E23V7R6

(RDF207) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 90.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = .000 AILERON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = 25.000 CANARD = .000

RUN NO. 207/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.199 | -.27110 | .04340 | .04370 | -.27360 | .02364 | -.00130 | .00110 | .00500 | .70800 | .03649 |
| .160 | -2.100 | -.17250 | .03900 | .04660 | -.17360 | .02865 | -.00120 | .00100 | .00300 | .74800 | .03667 |
| .160 | -.030 | -.07600 | .03080 | .04970 | -.07610 | .03078 | -.00130 | .00100 | .00300 | .89000 | .03563 |
| .160 | 2.000 | .01970 | .02610 | .05680 | .01590 | .02763 | -.00130 | .00080 | .00200 | -.65800 | .03633 |
| .160 | 4.070 | .10990 | .03070 | .06160 | .11180 | .02285 | -.00130 | .00080 | .00200 | .44700 | .03607 |
| .160 | 6.130 | .20960 | .03790 | .06580 | .21260 | .01533 | -.00150 | .00030 | .00300 | .53500 | .03520 |
| .160 | 8.220 | .31120 | .04820 | .06910 | .31490 | .00327 | -.00180 | .00040 | .00400 | .56900 | .03529 |
| .160 | 10.250 | .40660 | .06230 | .07320 | .41120 | -.01107 | -.00190 | .00010 | .00400 | .58400 | .03604 |
| .160 | 12.330 | .50730 | .08330 | .07490 | .51360 | -.02704 | -.00210 | .00060 | .00400 | .59600 | .03691 |
| .160 | 14.400 | .60830 | .11000 | .07670 | .61660 | -.04443 | -.00290 | .00110 | .00700 | .60400 | .03820 |
| .160 | 16.470 | .71280 | .14740 | .07690 | .72540 | -.06079 | -.00320 | .00210 | .00900 | .61000 | .03811 |
| .160 | 18.540 | .82780 | .21110 | .06570 | .85180 | -.06312 | -.01250 | -.00180 | .02500 | .62100 | .04132 |
| .160 | 20.620 | .92680 | .27030 | .06450 | .96270 | -.07350 | -.01320 | -.00280 | .02700 | .62900 | .04242 |
| .160 | 22.800 | 1.00770 | .33380 | .06430 | 1.05850 | -.08056 | -.01310 | -.00540 | .02800 | .62700 | .04684 |
| .160 | 24.790 | 1.06860 | .41260 | .06630 | 1.14310 | -.07267 | -.00590 | -.00280 | .01500 | .62800 | .05217 |
| .160 | 26.790 | 1.10940 | .47470 | .08140 | 1.20430 | -.07642 | -.00410 | -.00280 | .01300 | .62400 | .05520 |
| .160 | 28.790 | 1.09490 | .51540 | .11390 | 1.20780 | -.07572 | -.00460 | -.00470 | .02200 | .61900 | .06270 |
| .160 | 30.780 | 1.04200 | .53320 | .15790 | 1.16810 | -.07316 | -.00190 | -.00380 | .02400 | .60000 | .06947 |
| GRADIENT | | .04623 | -.00157 | .00224 | .04675 | -.00013 | -.00000 | -.00005 | -.00034 | -.09345 | -.00006 |

REFERENCE DATA

SREF = 4.4119 90.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BOFLAP = -18.000
 ELEVON = .000 AILERON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = 25.000 CANARD = .000

RUN NO. 208/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|---------|--------|--------|---------|--------|---------|---------|---------|--------|--------|
| .160 | -10.020 | -.05410 | .01980 | .04100 | -.05410 | .01985 | -.01690 | .00520 | .19200 | .92800 | .03892 |
| .160 | -5.030 | -.07000 | .02800 | .04710 | -.07010 | .02801 | -.00810 | .00280 | .09600 | .89700 | .03754 |
| .160 | -.010 | -.07840 | .03170 | .04950 | -.07840 | .03170 | -.00130 | .00030 | .00500 | .88200 | .03599 |
| .160 | 5.010 | -.07230 | .02670 | .04680 | -.07230 | .02666 | .00330 | -.00030 | -.00600 | .88800 | .03797 |
| .160 | 10.030 | -.05970 | .01690 | .04020 | -.05970 | .01685 | .01460 | -.00270 | -.01800 | .89700 | .04053 |
| GRADIENT | | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

M21B B19C7H9 M4F5 W107E23V7R6

(RDF208) (19 JUL 73)

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A21B)

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0A21B B19C7H9 M4F5 W107E23V7R6

(RDP210) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2100 INCHES
 SCALE = .0405 SCALE

RUN NO. 209/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CLM | CDF | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|
| .160 | -10.040 | .18040 | .02550 | .03390 | .18200 | .00939 | -.01940 | .01400 | .19000 | .54000 | .03940 |
| .160 | -5.040 | .16440 | .03250 | .06050 | .16660 | .01774 | -.00880 | .00690 | .09600 | .51600 | .03664 |
| .160 | -.010 | .16080 | .03450 | .06370 | .16320 | .02012 | -.00140 | .00070 | .00500 | .50600 | .03595 |
| .160 | 5.020 | .16370 | .03170 | .05980 | .16590 | .01703 | .00560 | -.00490 | -.08600 | .51700 | .03702 |
| .160 | 10.010 | .17670 | .02420 | .05230 | .17820 | .00843 | .01610 | -.01180 | -.18400 | .54100 | .03967 |
| | GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

PARAMETRIC DATA

ALPHA = 5.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SFDGRK = 25.000 CANARD = .000

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2100 INCHES
 SCALE = .0405 SCALE

RUN NO. 210/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CLM | CDF | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| .160 | -10.030 | .42230 | .05610 | .06200 | .42560 | -.02006 | -.02010 | .02320 | .18600 | .59600 | .04236 |
| .160 | -5.030 | .41240 | .06150 | .05780 | .41680 | -.01294 | -.01000 | .01150 | .09600 | .58900 | .03706 |
| .160 | .000 | .40510 | .06290 | .07260 | .40940 | -.01034 | -.00190 | .00030 | .00700 | .58400 | .03544 |
| .160 | 5.010 | .41340 | .06040 | .06610 | .41770 | -.01427 | .00510 | -.01030 | -.08200 | .59100 | .03900 |
| .160 | 10.050 | .42770 | .05550 | .05820 | .43080 | -.02169 | .01400 | -.02150 | -.17600 | .60000 | .04455 |
| | GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SFDGRK = 25.000 CANARD = .000

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 705B (0A21B)

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0A21B B19C7H9 MAF5 W107E23V7R6

(RDP211) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 15.000 BOFLAP = -18.000
ELEVON = .000 AILRON = .000
VTILNC = .000 RUDDER = .000
SPDBRK = 25.000 CANARD = .000

RUN NO. 211/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|---------|---------|--------|--------|---------|---------|---------|---------|--------|--------|
| .160 | -10.050 | .06430 | .12470 | .05930 | .69280 | -.06187 | -.01920 | .02970 | .18000 | .61800 | .04346 |
| .160 | -5.050 | .06180 | .12480 | .07200 | .67120 | -.05561 | -.00910 | .01630 | .09100 | .61000 | .03828 |
| .160 | .000 | .05750 | .12830 | .07760 | .66800 | -.05108 | -.00290 | .00180 | .01000 | .60700 | .03779 |
| .160 | 5.000 | .07010 | .12750 | .06850 | .67980 | -.05519 | .00190 | -.01220 | -.07200 | .61200 | .03919 |
| .160 | 10.050 | .09060 | .12400 | .05650 | .69870 | -.06431 | .01150 | -.02090 | -.16500 | .62000 | .04482 |
| GRADIENT | .00252 | -.00016 | -.00182 | .00238 | .00062 | | .00096 | -.00280 | -.01640 | .00100 | .00028 |

0A21B B19C7H9 MAF5 W107E23V7R6

(RDP212) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 20.000 BOFLAP = -18.000
ELEVON = .000 AILRON = .000
VTILNC = .000 RUDDER = .000
SPDBRK = 25.000 CANARD = .000

RUN NO. 212/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| .160 | -10.050 | .09130 | .28030 | .04550 | .95910 | -.06175 | -.02940 | .02260 | .19400 | .63200 | .04636 |
| .160 | -5.020 | .09090 | .27590 | .03720 | .95530 | -.06500 | -.02140 | .01160 | .11000 | .62700 | .04278 |
| .160 | .010 | .02480 | .27160 | .06320 | .96110 | -.07191 | -.01370 | -.00290 | .03000 | .62500 | .04189 |
| .160 | 5.010 | .03340 | .25870 | .06200 | .96460 | -.06720 | -.00400 | -.01540 | -.06000 | .62800 | .04335 |
| .160 | 10.040 | .05680 | .26130 | .04730 | .98750 | -.09312 | .00330 | -.03790 | -.14500 | .63200 | .04586 |
| GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | | .00000 | .00000 | .00000 | .00000 | .00000 |

LA218 B19C7H23M4F5 W107E23V7R6

(RDP213) (19 JUL 73)

REFERENCE DATA

| | | | | | | | |
|-------|---|---------|--------|------|---|---------|--------|
| 3007 | = | 4.4119 | 50.FT. | 100P | = | 45.5974 | INCHES |
| 1007 | = | 19.2299 | INCHES | 100P | = | .0000 | INCHES |
| 2007 | = | 37.5 | INCHES | 200P | = | 16.2000 | INCHES |
| SCALE | = | | | | | .04-.5 | SCALE |

| RUN NO. | 213/0 | FN/L = 1.17 | GRADIENT INTERVAL = | .30/ | 5.00 |
|---------|-------|-------------|---------------------|------|------|
| 1 | | | | | |
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| MAC+ | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|--------|---------|--------|---------|---------|---------|---------|--------|--------|---------|--------|
| .160 | -4.140 | -26640 | .04340 | .04030 | -27060 | .02369 | -.00120 | .00110 | .00300 | .70400 | .03760 |
| .160 | -2.090 | -17210 | .03560 | .04270 | -.17330 | .02947 | -.00120 | .00120 | .00300 | .74000 | .03596 |
| .160 | -.020 | -.07590 | .03370 | .04370 | -.07800 | .03133 | -.00120 | .00100 | .00300 | .66100 | .03650 |
| .160 | 2.010 | .01220 | .02890 | .04840 | .01320 | .02830 | -.00130 | .00180 | .00300 | -.09300 | .03619 |
| .160 | 4.070 | .10870 | .03060 | .03290 | .11060 | .02279 | -.00110 | .00260 | .00200 | .47400 | .03565 |
| .160 | 6.140 | .20490 | .03620 | .03500 | .20760 | .01413 | -.00140 | .00060 | .00300 | .55200 | .03480 |
| .160 | 8.200 | .30430 | .03990 | .03910 | .30760 | .00165 | -.00150 | .00000 | .00300 | .57000 | .03458 |
| .160 | 10.270 | .40360 | .03990 | .06420 | .40790 | -.01297 | -.00120 | .00000 | .00300 | .59100 | .03409 |
| .160 | 12.350 | .50760 | .07950 | .06730 | .51310 | -.03102 | -.00220 | .00000 | .00300 | .60100 | .03386 |
| .160 | 14.430 | .61160 | .10800 | .06940 | .61920 | -.04790 | -.00260 | .00100 | .00300 | .60600 | .03369 |
| .160 | 16.490 | .72520 | .14310 | .07020 | .73660 | -.06485 | -.00330 | .00190 | .00300 | .61400 | .03358 |
| .160 | 18.560 | .83920 | .17810 | .05950 | .85920 | -.07644 | -.00340 | .00330 | .02700 | .62400 | .04074 |
| .160 | 20.650 | .94510 | .27450 | .05840 | .98120 | -.07596 | -.00430 | .00340 | .02600 | .62900 | .04435 |
| .160 | 22.750 | 1.04590 | .35360 | .04740 | 1.10210 | -.07885 | -.00450 | .00340 | .02500 | .63300 | .04629 |
| .160 | 24.790 | 1.11620 | .42660 | .03130 | 1.19300 | -.08068 | -.00440 | .00340 | .01500 | .63300 | .04535 |
| .160 | 26.840 | 1.17830 | .50000 | .019700 | 1.27710 | -.08264 | -.00430 | .00360 | .01100 | .63300 | .03674 |
| .160 | 28.880 | 1.19610 | .55420 | .07920 | 1.31500 | -.08264 | -.00430 | .00360 | .02700 | .62700 | .03617 |
| .160 | 30.960 | 1.12640 | .57200 | .12660 | 1.26200 | -.08766 | -.00360 | .01290 | .03200 | .61200 | .03014 |
| .160 | .04574 | -.00156 | .00147 | .04626 | -.00000 | -.00000 | .00000 | .00000 | .00000 | -.00000 | .00000 |

REFERENCE DATA

WGT = 4.4119 LB./FT. WAP = 43.5974 INCHES
LWT = 19.2259 INCHES WAP = .0000 INCHES
WGT = 37.9339 INCHES WAP = 16.8700 INCHES
SCALE = .0405 SCALE

| RUN NO. | 214/ 0 | RUN/L = 1.17 | GRADIENT INTERVAL = -5.00/ 5.00 |
|---------|--------|--------------|---------------------------------|
| 1 | 0.00 | 0.00 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 |
| 4 | 0.00 | 0.00 | 0.00 |
| 5 | 0.00 | 0.00 | 0.00 |
| 6 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 0.00 | 0.00 |
| 8 | 0.00 | 0.00 | 0.00 |
| 9 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 0.00 | 0.00 |
| 11 | 0.00 | 0.00 | 0.00 |
| 12 | 0.00 | 0.00 | 0.00 |
| 13 | 0.00 | 0.00 | 0.00 |
| 14 | 0.00 | 0.00 | 0.00 |
| 15 | 0.00 | 0.00 | 0.00 |
| 16 | 0.00 | 0.00 | 0.00 |
| 17 | 0.00 | 0.00 | 0.00 |
| 18 | 0.00 | 0.00 | 0.00 |
| 19 | 0.00 | 0.00 | 0.00 |
| 20 | 0.00 | 0.00 | 0.00 |
| 21 | 0.00 | 0.00 | 0.00 |
| 22 | 0.00 | 0.00 | 0.00 |
| 23 | 0.00 | 0.00 | 0.00 |
| 24 | 0.00 | 0.00 | 0.00 |
| 25 | 0.00 | 0.00 | 0.00 |
| 26 | 0.00 | 0.00 | 0.00 |
| 27 | 0.00 | 0.00 | 0.00 |
| 28 | 0.00 | 0.00 | 0.00 |
| 29 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 |
| 31 | 0.00 | 0.00 | 0.00 |
| 32 | 0.00 | 0.00 | 0.00 |
| 33 | 0.00 | 0.00 | 0.00 |
| 34 | 0.00 | 0.00 | 0.00 |
| 35 | 0.00 | 0.00 | 0.00 |
| 36 | 0.00 | 0.00 | 0.00 |
| 37 | 0.00 | 0.00 | 0.00 |
| 38 | 0.00 | 0.00 | 0.00 |
| 39 | 0.00 | 0.00 | 0.00 |
| 40 | 0.00 | 0.00 | 0.00 |
| 41 | 0.00 | 0.00 | 0.00 |
| 42 | 0.00 | 0.00 | 0.00 |
| 43 | 0.00 | 0.00 | 0.00 |
| 44 | 0.00 | 0.00 | 0.00 |
| 45 | 0.00 | 0.00 | 0.00 |
| 46 | 0.00 | 0.00 | 0.00 |
| 47 | 0.00 | 0.00 | 0.00 |
| 48 | 0.00 | 0.00 | 0.00 |
| 49 | 0.00 | 0.00 | 0.00 |
| 50 | 0.00 | 0.00 | 0.00 |
| 51 | 0.00 | 0.00 | 0.00 |
| 52 | 0.00 | 0.00 | 0.00 |
| 53 | 0.00 | 0.00 | 0.00 |
| 54 | 0.00 | 0.00 | 0.00 |
| 55 | 0.00 | 0.00 | 0.00 |
| 56 | 0.00 | 0.00 | 0.00 |
| 57 | 0.00 | 0.00 | 0.00 |
| 58 | 0.00 | 0.00 | 0.00 |
| 59 | 0.00 | 0.00 | 0.00 |
| 60 | 0.00 | 0.00 | 0.00 |
| 61 | 0.00 | 0.00 | 0.00 |
| 62 | 0.00 | 0.00 | 0.00 |
| 63 | 0.00 | 0.00 | 0.00 |
| 64 | 0.00 | 0.00 | 0.00 |
| 65 | 0.00 | 0.00 | 0.00 |
| 66 | 0.00 | 0.00 | 0.00 |
| 67 | 0.00 | 0.00 | 0.00 |
| 68 | 0.00 | 0.00 | 0.00 |
| 69 | 0.00 | 0.00 | 0.00 |
| 70 | 0.00 | 0.00 | 0.00 |
| 71 | 0.00 | 0.00 | 0.00 |
| 72 | 0.00 | 0.00 | 0.00 |
| 73 | 0.00 | 0.00 | 0.00 |
| 74 | 0.00 | 0.00 | 0.00 |
| 75 | 0.00 | 0.00 | 0.00 |
| 76 | 0.00 | 0.00 | 0.00 |
| 77 | 0.00 | 0.00 | 0.00 |
| 78 | 0.00 | 0.00 | 0.00 |
| 79 | 0.00 | 0.00 | 0.00 |
| 80 | 0.00 | 0.00 | 0.00 |
| 81 | 0.00 | 0.00 | 0.00 |
| 82 | 0.00 | 0.00 | 0.00 |
| 83 | 0.00 | 0.00 | 0.00 |
| 84 | 0.00 | 0.00 | 0.00 |
| 85 | 0.00 | 0.00 | 0.00 |
| 86 | 0.00 | 0.00 | 0.00 |
| 87 | 0.00 | 0.00 | 0.00 |
| 88 | 0.00 | 0.00 | 0.00 |
| 89 | 0.00 | 0.00 | 0.00 |
| 90 | 0.00 | | |

[illegible]

TABULATED SOURCE DATA - NAL 7028 (0A218)

0A218 818CTH23V7R6 140723V7R6

(0DP218) (19 JUL 75)

REFERENCE DATA

REF = 4.4119 94.FT. WWP = 43.9974 INCHES
 LWP = 19.2299 INCHES YWP = .0000 INCHES
 SWP = 37.9899 INCHES ZWP = 16.2000 INCHES
 SCALE = .0408 SCALE

PARAMETRIC DATA

ALPHA = 5.000 BOFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDGRK = 25.000 CANARD = .000

RUN NO. 218/ 0 NAL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| INCH | BETA | CL | CLF | CLM | CN | CAF | CYN | CEL | CY | KCP/L | CAB |
|------|----------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|
| .160 | -10.000 | .17360 | .02360 | .04480 | .17360 | .03600 | -.05000 | .01250 | .19200 | .53600 | .03604 |
| .180 | -5.000 | .16130 | .03040 | .05030 | .16330 | .01961 | -.00910 | .00560 | .09600 | .53600 | .03697 |
| .180 | -5.000 | .15980 | .03360 | .05340 | .15790 | .01984 | -.00740 | .00700 | .03400 | .52500 | .03470 |
| .180 | 5.000 | .16130 | .02920 | .05010 | .16330 | .01437 | .00390 | -.00410 | -.06700 | .53600 | .03722 |
| .180 | 10.040 | .17140 | .06250 | .04340 | .17270 | .00896 | .01670 | -.01090 | -.18600 | .53700 | .03029 |
| | GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00200 | .00000 | .00000 |

0A218 818CTH23V7R6 140723V7R6

(0DP218) (19 JUL 75)

REFERENCE DATA

REF = 4.4119 94.FT. WWP = 43.9974 INCHES
 LWP = 19.2299 INCHES YWP = .0000 INCHES
 SWP = 37.9899 INCHES ZWP = 16.2000 INCHES
 SCALE = .0408 SCALE

PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDGRK = 25.000 CANARD = .000

RUN NO. 218/ 0 NAL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| INCH | BETA | CL | CLF | CLM | CN | CAF | CYN | CEL | CY | KCP/L | CAB |
|------|----------|---------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -18.000 | .41910 | .05310 | .05430 | .42180 | -.02239 | -.02210 | .02180 | .19700 | .60300 | .04134 |
| .180 | -5.000 | .40820 | .05760 | .05950 | .41180 | -.01806 | -.01130 | .01080 | .09600 | .59600 | .03971 |
| .180 | .000 | .40330 | .06080 | .06400 | .40770 | -.01843 | -.00180 | .00000 | .00800 | .59100 | .03376 |
| .180 | 5.000 | .40840 | .05980 | .05940 | .41290 | -.01717 | .00640 | -.00780 | -.06900 | .59700 | .03735 |
| .180 | 10.030 | .42160 | .06080 | .05080 | .42340 | -.02266 | .01640 | -.02010 | -.17600 | .60300 | .04440 |
| | GRADIENT | -.00094 | .00026 | .00000 | -.00082 | .00073 | .00190 | -.00204 | -.01640 | -.00100 | -.00039 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAL T058 (0A218)

PAGE 29

0A218 B19CTH23M4F5 W10T23V7R6

(NDP217) (19 JUL 73)

REFERENCE DATA

2027 = 4.4119 30.FT. 2027 = 43.5974 INCHES
 1027 = 19.2299 INCHES 1027 = .0070 INCHES
 0027 = 37.9399 INCHES 2027 = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 217/ 0 RUL = 1.17 GRADIENT INTERVAL = -5.10/ 9.00

PARAMETRIC DATA

ALPHA = 19.0000 2027 = -18.0000
 ELEVON = .0000 AILCON = .0000
 VTLINC = .0000 RUDDER = .0000
 5000K = 25.0000 CANARD = .0000

| WICH | BETA | CL | CDP | CLN | CH | CAF | CYN | CEL | CY | KCP/L | CAB |
|----------|---------|-------|-------|-------|-------|---------|---------|---------|---------|--------|--------|
| 100 | -10.000 | .0000 | .1250 | .0530 | .0000 | -.00475 | -.00900 | .0000 | .10700 | .00100 | .04100 |
| 100 | -5.000 | .0000 | .1340 | .0440 | .0000 | -.00400 | -.01240 | .0000 | .00800 | .01400 | .03750 |
| 100 | -0.010 | .0000 | .1340 | .0700 | .0000 | -.00700 | -.00000 | .0000 | .00900 | .01100 | .03810 |
| 100 | 5.000 | .0000 | .1250 | .0000 | .0000 | -.00000 | .00000 | -.00000 | -.00000 | .01100 | .03940 |
| 100 | 10.000 | .0000 | .1250 | .0000 | .0000 | -.00000 | .00000 | -.00000 | -.00000 | .00200 | .04440 |
| GRADIENT | | | | | | | | | .00000 | .00000 | .00000 |

0A218 B19CTH23M4F5 W10T23V7R6

(NDP218) (19 JUL 73)

REFERENCE DATA

2027 = 4.4119 30.FT. 2027 = 43.5974 INCHES
 1027 = 19.2299 INCHES 1027 = .0070 INCHES
 0027 = 37.9399 INCHES 2027 = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 218/ 0 RUL = 1.17 GRADIENT INTERVAL = -5.10/ 9.00

PARAMETRIC DATA

ALPHA = 20.0000 2027 = -18.0000
 ELEVON = .0000 AILCON = .0000
 VTLINC = .0000 RUDDER = .0000
 5000K = 25.0000 CANARD = .0000

| WICH | BETA | CL | CDP | CLN | CH | CAF | CYN | CEL | CY | KCP/L | CAB |
|----------|---------|-------|-------|-------|-------|---------|---------|---------|---------|--------|--------|
| 100 | -10.000 | .0000 | .1250 | .0530 | .0000 | -.00475 | -.00900 | .0000 | .10700 | .00100 | .04100 |
| 100 | -5.000 | .0000 | .1340 | .0440 | .0000 | -.00400 | -.01240 | .0000 | .00800 | .01400 | .03750 |
| 100 | .000 | .0000 | .1340 | .0640 | .0000 | -.00700 | -.00000 | -.00000 | .00900 | .01100 | .03810 |
| 100 | 5.000 | .0000 | .1250 | .0000 | .0000 | -.00000 | .00000 | -.00000 | -.00000 | .00200 | .04440 |
| 100 | 10.000 | .0000 | .1250 | .0000 | .0000 | -.00000 | .00000 | -.00000 | -.00000 | .00000 | .00000 |
| GRADIENT | | | | | | | | | .00000 | .00000 | .00000 |

6049 ELECTRONIC LABORATORY

19 JUL 73 (2438)

PSYCHOTRIC DATA

[illegible]

| | | | |
|-------|--------|--------|---------|
| ALPHA | .000 | SE7LAP | -10.000 |
| BETA | .000 | ALPHA | .000 |
| VLINC | .000 | BETA | -7.000 |
| VLINC | 20.000 | VLINC | .000 |

1. The first step is to identify the problem or goal. This involves understanding the current situation and what needs to be achieved.

[illegible]

Case Report

[illegible]

| | | | |
|---------|--------|--------|---------|
| ALPHA | 9,000 | SWAP | -10,000 |
| BELCON | .000 | BLACK | .000 |
| CHI TR | .000 | ALBERT | -7,900 |
| VFL INC | .000 | CANARD | .000 |
| WESTERN | 25,000 | | |

| | NOV-9 | DEC-9 | JAN-00 | FEB-00 | MAR-00 | APR-00 | MAY-00 | JUN-00 | JUL-00 | AUG-00 | SEP-00 | OCT-00 | NOV-00 | DEC-00 | JAN-01 | FEB-01 | MAR-01 | APR-01 | MAY-01 | JUN-01 | JUL-01 | AUG-01 | SEP-01 | OCT-01 | NOV-01 | DEC-01 | JAN-02 | FEB-02 | MAR-02 | APR-02 | MAY-02 | JUN-02 | JUL-02 | AUG-02 | SEP-02 | OCT-02 | NOV-02 | DEC-02 | JAN-03 | FEB-03 | MAR-03 | APR-03 | MAY-03 | JUN-03 | JUL-03 | AUG-03 | SEP-03 | OCT-03 | NOV-03 | DEC-03 | JAN-04 | FEB-04 | MAR-04 | APR-04 | MAY-04 | JUN-04 | JUL-04 | AUG-04 | SEP-04 | OCT-04 | NOV-04 | DEC-04 | JAN-05 | FEB-05 | MAR-05 | APR-05 | MAY-05 | JUN-05 | JUL-05 | AUG-05 | SEP-05 | OCT-05 | NOV-05 | DEC-05 | JAN-06 | FEB-06 | MAR-06 | APR-06 | MAY-06 | JUN-06 | JUL-06 | AUG-06 | SEP-06 | OCT-06 | NOV-06 | DEC-06 | JAN-07 | FEB-07 | MAR-07 | APR-07 | MAY-07 | JUN-07 | JUL-07 | AUG-07 | SEP-07 | OCT-07 | NOV-07 | DEC-07 | JAN-08 | FEB-08 | MAR-08 | APR-08 | MAY-08 | JUN-08 | JUL-08 | AUG-08 | SEP-08 | OCT-08 | NOV-08 | DEC-08 | JAN-09 | FEB-09 | MAR-09 | APR-09 | MAY-09 | JUN-09 | JUL-09 | AUG-09 | SEP-09 | OCT-09 | NOV-09 | DEC-09 | JAN-10 | FEB-10 | MAR-10 | APR-10 | MAY-10 | JUN-10 | JUL-10 | AUG-10 | SEP-10 | OCT-10 | NOV-10 | DEC-10 | JAN-11 | FEB-11 | MAR-11 | APR-11 | MAY-11 | JUN-11 | JUL-11 | AUG-11 | SEP-11 | OCT-11 | NOV-11 | DEC-11 | JAN-12 | FEB-12 | MAR-12 | APR-12 | MAY-12 | JUN-12 | JUL-12 | AUG-12 | SEP-12 | OCT-12 | NOV-12 | DEC-12 | JAN-13 | FEB-13 | MAR-13 | APR-13 | MAY-13 | JUN-13 | JUL-13 | AUG-13 | SEP-13 | OCT-13 | NOV-13 | DEC-13 | JAN-14 | FEB-14 | MAR-14 | APR-14 | MAY-14 | JUN-14 | JUL-14 | AUG-14 | SEP-14 | OCT-14 | NOV-14 | DEC-14 | JAN-15 | FEB-15 | MAR-15 | APR-15 | MAY-15 | JUN-15 | JUL-15 | AUG-15 | SEP-15 | OCT-15 | NOV-15 | DEC-15 | JAN-16 | FEB-16 | MAR-16 | APR-16 | MAY-16 | JUN-16 | JUL-16 | AUG-16 | SEP-16 | OCT-16 | NOV-16 | DEC-16 | JAN-17 | FEB-17 | MAR-17 | APR-17 | MAY-17 | JUN-17 | JUL-17 | AUG-17 | SEP-17 | OCT-17 | NOV-17 | DEC-17 | JAN-18 | FEB-18 | MAR-18 | APR-18 | MAY-18 | JUN-18 | JUL-18 | AUG-18 | SEP-18 | OCT-18 | NOV-18 | DEC-18 | JAN-19 | FEB-19 | MAR-19 | APR-19 | MAY-19 | JUN-19 | JUL-19 | AUG-19 | SEP-19 | OCT-19 | NOV-19 | DEC-19 | JAN-20 | FEB-20 | MAR-20 | APR-20 | MAY-20 | JUN-20 | JUL-20 | AUG-20 | SEP-20 | OCT-20 | NOV-20 | DEC-20 | JAN-21 | FEB-21 | MAR-21 | APR-21 | MAY-21 | JUN-21 | JUL-21 | AUG-21 | SEP-21 | OCT-21 | NOV-21 | DEC-21 | JAN-22 | FEB-22 | MAR-22 | APR-22 | MAY-22 | JUN-22 | JUL-22 | AUG-22 | SEP-22 | OCT-22 | NOV-22 | DEC-22 | JAN-23 | FEB-23 | MAR-23 | APR-23 | MAY-23 | JUN-23 | JUL-23 | AUG-23 | SEP-23 | OCT-23 | NOV-23 | DEC-23 | JAN-24 | FEB-24 | MAR-24 | APR-24 | MAY-24 | JUN-24 | JUL-24 | AUG-24 | SEP-24 | OCT-24 | NOV-24 | DEC-24 | JAN-25 | FEB-25 | MAR-25 | APR-25 | MAY-25 | JUN-25 | JUL-25 | AUG-25 | SEP-25 | OCT-25 | NOV-25 | DEC-25 | JAN-26 | FEB-26 | MAR-26 | APR-26 | MAY-26 | JUN-26 | JUL-26 | AUG-26 | SEP-26 | OCT-26 | NOV-26 | DEC-26 | JAN-27 | FEB-27 | MAR-27 | APR-27 | MAY-27 | JUN-27 | JUL-27 | AUG-27 | SEP-27 | OCT-27 | NOV-27 | DEC-27 | JAN-28 | FEB-28 | MAR-28 | APR-28 | MAY-28 | JUN-28 | JUL-28 | AUG-28 | SEP-28 | OCT-28 | NOV-28 | DEC-28 | JAN-29 | FEB-29 | MAR-29 | APR-29 | MAY-29 | JUN-29 | JUL-29 | AUG-29 | SEP-29 | OCT-29 | NOV-29 | DEC-29 | JAN-30 | FEB-30 | MAR-30 | APR-30 | MAY-30 | JUN-30 | JUL-30 | AUG-30 | SEP-30 | OCT-30 | NOV-30 | DEC-30 | JAN-31 | FEB-31 | MAR-31 | APR-31 | MAY-31 | JUN-31 | JUL-31 | AUG-31 | SEP-31 | OCT-31 | NOV-31 | DEC-31 | JAN-32 | FEB-32 | MAR-32 | APR-32 | MAY-32 | JUN-32 | JUL-32 | AUG-32 | SEP-32 | OCT-32 | NOV-32 | DEC-32 | JAN-33 | FEB-33 | MAR-33 | APR-33 | MAY-33 | JUN-33 | JUL-33 | AUG-33 | SEP-33 | OCT-33 | NOV-33 | DEC-33 | JAN-34 | FEB-34 | MAR-34 | APR-34 | MAY-34 | JUN-34 | JUL-34 | AUG-34 | SEP-34 | OCT-34 | NOV-34 | DEC-34 | JAN-35 | FEB-35 | MAR-35 | APR-35 | MAY-35 | JUN-35 | JUL-35 | AUG-35 | SEP-35 | OCT-35 | NOV-35 | DEC-35 | JAN-36 | FEB-36 | MAR-36 | APR-36 | MAY-36 | JUN-36 | JUL-36 | AUG-36 | SEP-36 | OCT-36 | NOV-36 | |
|--|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
|--|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|

[illegible]

DATE 21 NOV 75

TABULATED SOURCE DATA - NAL T08801-1

PAGE 31

01218 DISCTH28M75 M07E25V75

DISPERSI (19 JUL 75)

REFERENCE DATA

REF = 4.4119 M.F.T. WWP = 43.9974 INCHES
 LWP = 19.5299 INCHES WWP = .0000 INCHES
 REF = 37.9999 INCHES WWP = 16.0000 INCHES
 SCALE = .0400 SCALE

RUN NO. 281/ 0 NAL = 1.17 GRADIENT INTERVAL = -9.00/ 9.00

| REF | BETA | CL | CLF | CLM | CM | CAF | CYM | CR | CV | MCP/L | CAB |
|----------|---------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| 1.00 | -10.000 | .47000 | .00000 | .00400 | .48000 | -.00000 | -.01400 | .01700 | .17000 | .00000 | .04040 |
| 1.00 | -9.000 | .40700 | .00070 | .00110 | .41110 | -.01400 | -.02000 | .00000 | .04000 | .00000 | .03998 |
| 1.00 | -8.000 | .40000 | .00000 | .00000 | .40000 | -.01000 | .00000 | -.00000 | -.01000 | .00000 | .03440 |
| 1.00 | 5.000 | .40700 | .00000 | .00000 | .41110 | -.01400 | .01000 | -.01300 | -.10000 | .00000 | .03000 |
| 1.00 | 10.000 | .40000 | .00010 | .00070 | .40000 | -.00000 | .00000 | -.00000 | -.10000 | .00000 | .04000 |
| GRADIENT | | | | | | | | | | | |

ALPHA = 10.000
 ELEVON = .000
 VTLINC = .000
 SPTRM = 29.000

PARAMETRIC DATA

REFERENCE DATA

REF = 4.4119 M.F.T. WWP = 43.9974 INCHES
 LWP = 19.5299 INCHES WWP = .0000 INCHES
 REF = 37.9999 INCHES WWP = 16.0000 INCHES
 SCALE = .0400 SCALE

RUN NO. 281/ 0 NAL = 1.17 GRADIENT INTERVAL = -9.00/ 9.00

| REF | BETA | CL | CLF | CLM | CM | CAF | CYM | CR | CV | MCP/L | CAB |
|----------|---------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| 1.00 | -10.000 | .47000 | .00000 | .00400 | .48000 | -.00000 | -.01400 | .01700 | .17000 | .00000 | .04040 |
| 1.00 | -9.000 | .40700 | .00070 | .00110 | .41110 | -.01400 | -.02000 | .00000 | .04000 | .00000 | .03998 |
| 1.00 | -8.000 | .40000 | .00000 | .00000 | .40000 | -.01000 | .00000 | -.00000 | -.01000 | .00000 | .03440 |
| 1.00 | 5.000 | .40700 | .00000 | .00000 | .41110 | -.01400 | .01000 | -.01300 | -.10000 | .00000 | .03000 |
| 1.00 | 10.000 | .40000 | .00010 | .00070 | .40000 | -.00000 | .00000 | -.00000 | -.10000 | .00000 | .04000 |
| GRADIENT | | | | | | | | | | | |

ALPHA = 10.000
 ELEVON = .000
 VTLINC = .000
 SPTRM = 29.000

PARAMETRIC DATA

01218 DISCTH28M75 M07E25V75

DISPERSI (19 JUL 75)

TRANSLATED SOURCE DATA - MAR. '68 (22839)

100-443886-100

0000 1406254331 1406254700

CONCLUSIONS DATA

| | | | | | |
|-----|--------|--------|------|---------|--------|
| 7 | 4,418 | 20-71 | 1989 | 48,8074 | 110-63 |
| 107 | 10,588 | 110-63 | 1989 | .0000 | 110-63 |
| 107 | 27,694 | 110-63 | 1989 | 11,8088 | 110-63 |
| 107 | | 110-63 | | | |

COPIES OF THIS REPORT ARE AVAILABLE FROM THE NATIONAL ARCHIVES AT COLLEGE PARK, MARYLAND 20740-6035

| ITEM | QTY | UNIT | PRICE | TOTAL | TAX | NET | GRAND TOTAL |
|--------|--------|--------|--------|--------|-------|--------|-------------|
| 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 0.000 | 1.000 | 1.000 |
| 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 0.000 | 2.000 | 2.000 |
| 3.000 | 3.000 | 3.000 | 3.000 | 3.000 | 0.000 | 3.000 | 3.000 |
| 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 0.000 | 4.000 | 4.000 |
| 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 0.000 | 5.000 | 5.000 |
| 6.000 | 6.000 | 6.000 | 6.000 | 6.000 | 0.000 | 6.000 | 6.000 |
| 7.000 | 7.000 | 7.000 | 7.000 | 7.000 | 0.000 | 7.000 | 7.000 |
| 8.000 | 8.000 | 8.000 | 8.000 | 8.000 | 0.000 | 8.000 | 8.000 |
| 9.000 | 9.000 | 9.000 | 9.000 | 9.000 | 0.000 | 9.000 | 9.000 |
| 10.000 | 10.000 | 10.000 | 10.000 | 10.000 | 0.000 | 10.000 | 10.000 |
| 11.000 | 11.000 | 11.000 | 11.000 | 11.000 | 0.000 | 11.000 | 11.000 |
| 12.000 | 12.000 | 12.000 | 12.000 | 12.000 | 0.000 | 12.000 | 12.000 |
| 13.000 | 13.000 | 13.000 | 13.000 | 13.000 | 0.000 | 13.000 | 13.000 |
| 14.000 | 14.000 | 14.000 | 14.000 | 14.000 | 0.000 | 14.000 | 14.000 |
| 15.000 | 15.000 | 15.000 | 15.000 | 15.000 | 0.000 | 15.000 | 15.000 |
| 16.000 | 16.000 | 16.000 | 16.000 | 16.000 | 0.000 | 16.000 | 16.000 |
| 17.000 | 17.000 | 17.000 | 17.000 | 17.000 | 0.000 | 17.000 | 17.000 |
| 18.000 | 18.000 | 18.000 | 18.000 | 18.000 | 0.000 | 18.000 | 18.000 |
| 19.000 | 19.000 | 19.000 | 19.000 | 19.000 | 0.000 | 19.000 | 19.000 |
| 20.000 | 20.000 | 20.000 | 20.000 | 20.000 | 0.000 | 20.000 | 20.000 |
| 21.000 | 21.000 | 21.000 | 21.000 | 21.000 | 0.000 | 21.000 | 21.000 |
| 22.000 | 22.000 | 22.000 | 22.000 | 22.000 | 0.000 | 22.000 | 22.000 |
| 23.000 | 23.000 | 23.000 | 23.000 | 23.000 | 0.000 | 23.000 | 23.000 |
| 24.000 | 24.000 | 24.000 | 24.000 | 24.000 | 0.000 | 24.000 | 24.000 |
| 25.000 | 25.000 | 25.000 | 25.000 | 25.000 | 0.000 | 25.000 | 25.000 |
| 26.000 | 26.000 | 26.000 | 26.000 | 26.000 | 0.000 | 26.000 | 26.000 |
| 27.000 | 27.000 | 27.000 | 27.000 | 27.000 | 0.000 | 27.000 | 27.000 |
| 28.000 | 28.000 | 28.000 | 28.000 | 28.000 | 0.000 | 28.000 | 28.000 |
| 29.000 | 29.000 | 29.000 | 29.000 | 29.000 | 0.000 | 29.000 | 29.000 |
| 30.000 | 30.000 | 30.000 | 30.000 | 30.000 | 0.000 | 30.000 | 30.000 |
| 31.000 | 31.000 | 31.000 | 31.000 | 31.000 | 0.000 | 31.000 | 31.000 |
| 32.000 | 32.000 | 32.000 | 32.000 | 32.000 | 0.000 | 32.000 | 32.000 |
| 33.000 | 33.000 | 33.000 | 33.000 | 33.000 | 0.000 | 33.000 | 33.000 |
| 34.000 | 34.000 | 34.000 | 34.000 | 34.000 | 0.000 | 34.000 | 34.000 |
| 35.000 | 35.000 | 35.000 | 35.000 | 35.000 | 0.000 | 35.000 | 35.000 |
| 36.000 | 36.000 | 36.000 | 36.000 | 36.000 | 0.000 | 36.000 | 36.000 |
| 37.000 | 37.000 | 37.000 | 37.000 | 37.000 | 0.000 | 37.000 | 37.000 |
| 38.000 | 38.000 | 38.000 | 38.000 | 38.000 | 0.000 | 38.000 | 38.000 |
| 39.000 | 39.000 | 39.000 | 39.000 | 39.000 | 0.000 | 39.000 | 39.000 |
| 40.000 | 40.000 | 40.000 | 40.000 | 40.000 | 0.000 | 40.000 | 40.000 |
| 41.000 | 41.000 | 41.000 | 41.000 | 41.000 | 0.000 | 41.000 | 41.000 |
| 42.000 | 42.000 | 42.000 | 42.000 | 42.000 | 0.000 | 42.000 | 42.000 |
| 43.000 | 43.000 | 43.000 | 43.000 | 43.000 | 0.000 | 43.000 | 43.000 |
| 44.000 | 44.000 | 44.000 | 44.000 | 44.000 | 0.000 | 44.000 | 44.000 |

SECRET

| STOCK | PRICE | PERCENT | DATE |
|---------------|-------|---------|------|
| AMERICAN | 100 | 100 | 100 |
| AT&T | 100 | 100 | 100 |
| GOVERNMENT | 100 | 100 | 100 |
| INDUSTRIAL | 100 | 100 | 100 |
| INTERNATIONAL | 100 | 100 | 100 |
| TECHNOLOGY | 100 | 100 | 100 |
| UTILITIES | 100 | 100 | 100 |
| WORLDWIDE | 100 | 100 | 100 |

FILE NO. 100-8769 - SUBJECT MATTER -

[illegible]

PARACETAMOLIC DATA

| | | | |
|---------|----------|---------|---------|
| ALPHA | \$10,000 | EXPLOS | -10,000 |
| ELECTR | 750 | ATLANTA | 000 |
| ATL INC | 000 | IN 3000 | -7,500 |
| SPRING | 25,000 | CANADA | 000 |

10

| CY | KCPA | CAS |
|--------|--------|--------|
| .10000 | .00000 | .00000 |
| .09781 | .00100 | .00000 |
| .09669 | .00200 | .00000 |
| .09550 | .00300 | .00000 |
| .09425 | .00400 | .00000 |
| .09300 | .00500 | .00000 |
| .09170 | .00600 | .00000 |
| .09039 | .00700 | .00000 |
| .08908 | .00800 | .00000 |
| .08775 | .00900 | .00000 |
| .08642 | .01000 | .00000 |

PAULSON, JAMES C. 001328

| | | | |
|----------|---------|--------|------|
| ALFA | 1983 | DEPLAP | 1983 |
| BLVON | 1983 | ALJEN | 1983 |
| VTL INC | 1983 | ROBBER | 1983 |
| SPRINGER | 89,1983 | CANARD | 1983 |

2

[illegible]

DATE 21 NOV 73

TABULATED SOURCE DATA - NAL TORS C08120

PAGE 20

CASE18 DISCHARGEWAYS M37220V73

(19 JUL 73)

REFERENCE DATA

SWP = 4.4119 88.77. WWP = 43.8974 INCHES
 LWP = 19.8270 INCHES WWP = .0000 INCHES
 SWP = 37.9389 INCHES ZWP = 16.8000 INCHES
 SCALE = .0408 SCALE

PARAMETRIC DATA

ALPHA = 9.0000 SWPLAP = -18.0000
 ELEVON = .0000 AIRLON = .0000
 VRLINC = .0000 BLADDER = -18.0000
 SPBLA = 20.0000 CANARD = .0000

RUN NO. 226/ 0 NAL = 1.17 GRADIENT INTERVAL = -0.00/ 9.00

| MACI | BETA | CL | CLN | CLP | CYN | COL | CV | WPA | CAB |
|----------|----------|--------|--------|--------|---------|---------|---------|--------|--------|
| .100 | -10.0000 | .17930 | .04800 | .00000 | -.70130 | .00000 | .15000 | .00000 | .00000 |
| .200 | -8.0000 | .19930 | .05770 | .00000 | -.01130 | -.00000 | .00000 | .00000 | .00000 |
| .300 | .0000 | .19930 | .05900 | .00000 | .00000 | .00000 | -.00000 | .00000 | .00000 |
| .400 | 8.0000 | .19930 | .05900 | .00000 | .00000 | .00000 | -.00000 | .00000 | .00000 |
| .500 | 10.0000 | .16930 | .05970 | .00000 | .00000 | .00000 | -.00000 | .00000 | .00000 |
| GRADIENT | -.00144 | .00000 | .00000 | .00000 | .00000 | .00000 | -.00000 | .00000 | .00000 |

CASE18 DISCHARGEWAYS M37220V73

(19 JUL 73)

REFERENCE DATA

SWP = 4.4119 88.77. WWP = 43.8974 INCHES
 LWP = 19.8270 INCHES WWP = .0000 INCHES
 SWP = 37.9389 INCHES ZWP = 16.8000 INCHES
 SCALE = .0408 SCALE

PARAMETRIC DATA

ALPHA = 9.0000 SWPLAP = -18.0000
 ELEVON = .0000 AIRLON = .0000
 VRLINC = .0000 BLADDER = -18.0000
 SPBLA = 20.0000 CANARD = .0000

RUN NO. 226/ 0 NAL = 1.17 GRADIENT INTERVAL = -0.00/ 9.00

| MACI | BETA | CL | CLN | CLP | CYN | COL | CV | WPA | CAB |
|----------|----------|--------|--------|--------|---------|---------|---------|--------|--------|
| .100 | -10.0000 | .41800 | .05780 | .00000 | -.00480 | .00000 | .15000 | .00000 | .00000 |
| .200 | -8.0000 | .40190 | .05770 | .00000 | .00000 | -.00000 | .00000 | .00000 | .00000 |
| .300 | .0000 | .39480 | .05900 | .00000 | .00000 | -.00000 | -.00000 | .00000 | .00000 |
| .400 | 8.0000 | .40180 | .05900 | .00000 | .00000 | -.00000 | -.00000 | .00000 | .00000 |
| .500 | 10.0000 | .41490 | .05780 | .00000 | .00000 | .00000 | -.00000 | .00000 | .00000 |
| GRADIENT | -.00134 | .00000 | .00000 | .00000 | .00000 | .00000 | -.00000 | .00000 | .00000 |

04218 BISCTH23V76 M07E23V76

(R0P227) (19 JUL 75)

REFERENCE DATA

REF = 4.4119 88.17. 148P = 43.9974 INCHES
 LREF = 19.2239 INCHES 148P = .0000 INCHES
 REF = 37.9339 INCHES 248P = 16.1000 INCHES
 SCALE = .0409 SCALE

PARAMETRIC DATA

ALPHA = 19.000 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = -19.000
 SPDRK = 29.000 CANARD = .000

RUN NO. 227/ 0 RW/L = 1.17 GRADIENT INTERVAL = -9.00/ 5.00

| WACH | BETA | CL | CLF | CLM | CM | CAF | CYN | CEL | CY | KCP/L | CAB |
|----------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -10.000 | .00110 | .12960 | .05500 | .00000 | -.00203 | -.00000 | .00040 | .19100 | .00000 | .04163 |
| .160 | -9.000 | .00000 | .12700 | .07000 | .00000 | -.05397 | .00000 | .00990 | .09900 | .01100 | .00990 |
| .160 | .000 | .00170 | .12960 | .07970 | .00000 | -.05096 | .01670 | -.00000 | -.03200 | .00000 | .03856 |
| .160 | 8.000 | .07220 | .11960 | .06390 | .00000 | -.05498 | .02410 | -.00100 | -.11600 | .01400 | .04074 |
| .160 | 10.000 | .00000 | .12960 | .00000 | .00000 | -.00270 | .03440 | -.00000 | -.20000 | .00000 | .04474 |
| GRADIENT | -.00000 | .00000 | .00000 | .00106 | -.00006 | .00006 | .00194 | -.00000 | -.01760 | -.00000 | -.00019 |

04218 BISCTH 23V76 M07E23V76

(R0P228) (19 JUL 75)

REFERENCE DATA

REF = 4.4119 88.17. 148P = 43.9974 INCHES
 LREF = 19.2239 INCHES 148P = .0000 INCHES
 REF = 37.9339 INCHES 248P = 16.1000 INCHES
 SCALE = .0409 SCALE

PARAMETRIC DATA

ALPHA = 20.000 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = -19.000
 SPDRK = 29.000 CANARD = .000

RUN NO. 228/ 0 RW/L = 1.17 GRADIENT INTERVAL = -9.00/ 5.00

| WACH | BETA | CL | CLF | CLM | CM | CAF | CYN | CEL | CY | KCP/L | CAB |
|----------|---------|--------|---------|---------|--------|---------|---------|---------|---------|--------|--------|
| .160 | -10.000 | .00110 | .12960 | .05500 | .00000 | -.00763 | -.00000 | .01910 | .16700 | .00000 | .04768 |
| .160 | -9.000 | .00000 | .12960 | .06160 | .00000 | -.00000 | -.00410 | .00160 | .00000 | .00000 | .04668 |
| .160 | .000 | .00170 | .12700 | .00000 | .00000 | -.00000 | .00000 | -.01560 | -.01400 | .00000 | .04643 |
| .160 | 8.000 | .00000 | .12960 | .00000 | .00000 | -.00000 | .01670 | -.00000 | -.00000 | .00000 | .04645 |
| .160 | 10.000 | .00000 | .12960 | .00000 | .00000 | -.00000 | .00000 | -.04540 | -.16400 | .00000 | .05037 |
| GRADIENT | -.00000 | .00000 | -.00000 | -.00000 | .00174 | -.00017 | .00190 | -.00000 | -.11640 | .00000 | .00000 |

DATE 21 NOV 73 TABULATED SOURCE DATA - NAAL 7038 (04218)

04218 B19C7H23HAF5 W107E23V7R6

(RQP229) (19 JUL 73)

PARAMETRIC DATA

BETA = .000
ELEVON = -5.000
VTLINC = .000
SPDRK = 25.000

REF = 4.4119 32.574 INCHES
LREF = 19.2299 INCHES
BREF = 37.9399 INCHES
SCALE = .0405 SCALE

RUN NO. 229/0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

REFERENCE DATA

| MACH | ALPHA | CL | CLM | CN | CAF | CYN | CSL | CY | XCP/L | CAS |
|------|--------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|
| .100 | -4.220 | -37420 | .05430 | -37720 | .02865 | -.00180 | .00210 | .00500 | .73400 | .03377 |
| .100 | -2.130 | -27970 | .04200 | -28110 | .03149 | -.00170 | .00200 | .00400 | .76800 | .03371 |
| .100 | -1.080 | -16440 | .03540 | -16440 | .03513 | -.00180 | .00190 | .00400 | .83000 | .03328 |
| .100 | 1.940 | -09230 | .03060 | -09120 | .03378 | -.00180 | .00190 | .00400 | 1.03800 | .03301 |
| .100 | 4.010 | -00180 | .02800 | .00010 | .02806 | -.00170 | .00170 | .00500 | -32.76700 | .03301 |
| .100 | 6.070 | .08360 | .03060 | .09050 | .02035 | -.00170 | .00180 | .00500 | .28300 | .03172 |
| .100 | 8.160 | .19670 | .03620 | .19860 | .00793 | -.00180 | .00180 | .00500 | .49000 | .03163 |
| .100 | 10.190 | .29080 | .04510 | .29430 | -.00711 | -.00180 | .00190 | .00500 | .50800 | .03241 |
| .100 | 12.290 | .39640 | .06210 | .40060 | -.02365 | -.00210 | .00110 | .00400 | .54800 | .03268 |
| .100 | 14.320 | .50570 | .08700 | .51197 | -.04101 | -.00280 | .00170 | .00500 | .56400 | .03482 |
| .100 | 16.420 | .61510 | .12010 | .62400 | -.05873 | -.00340 | .00260 | .00600 | .57900 | .03524 |
| .100 | 18.530 | .73330 | .16190 | .75340 | -.08017 | -.01210 | -.00310 | .02500 | .59600 | .03688 |
| .100 | 20.570 | .86860 | .24050 | .86990 | -.09966 | -.01230 | -.00430 | .02700 | .60900 | .04068 |
| .100 | 22.630 | .94070 | .30570 | .94590 | -.08011 | -.00900 | -.00450 | .02700 | .61200 | .04369 |
| .100 | 24.720 | 1.02140 | .38490 | 1.06680 | -.07750 | -.00900 | -.00190 | .01900 | .61600 | .04778 |
| .100 | 26.770 | 1.09100 | .45590 | 1.17940 | -.06457 | -.00460 | .00330 | .00900 | .61800 | .05242 |
| .100 | 28.810 | 1.12940 | .51610 | 1.23390 | -.06976 | -.00360 | -.00050 | .01400 | .61500 | .05725 |
| .100 | 30.880 | 1.09120 | .54560 | 1.21680 | -.09144 | -.00480 | -.01180 | .02800 | .60300 | .06377 |
| .100 | | | -.00312 | .04596 | .00025 | .00000 | -.00006 | -.00019 | -3.24749 | -.00011 |

GRADIENT

04E18 819C7H23H4F3 M107E23V7R6

(RDP230) (19 JUL 73)

REFERENCE DATA

REF = 4.4110 30-FT. 100P = 43.5974 INCHES
 LREF = 19.2299 INCHES YMP = .0020 INCHES
 BREF = 37.3050 INCHES ZMP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 80FLAP = -18.000
 ELEVON = 5.000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDRK = 25.000 CANARD = .000

R/N NO. 230/ 0 R/V/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| WACH | ALPHA | CL | CLF | CLM | CN | CAF | CYN | CLL | CY | XCP/L | CAS |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.110 | -1.7050 | .03940 | -.00390 | -.17270 | .02712 | -.00180 | .00160 | .00500 | .64200 | .03912 |
| .160 | -2.078 | -.07580 | .03360 | -.00160 | -.07690 | .03112 | -.00160 | .00140 | .00400 | .54100 | .03839 |
| .160 | .010 | .01980 | .03270 | -.00080 | .01980 | .03272 | -.00190 | .00140 | .00400 | .66200 | .03845 |
| .160 | 2.050 | .11020 | .03310 | .00330 | .11130 | .02915 | -.00170 | .00110 | .00400 | .63600 | .03769 |
| .160 | 4.110 | .20700 | .03710 | .00700 | .20910 | .02217 | -.00190 | .00100 | .00400 | .63700 | .03779 |
| .160 | 6.180 | .30130 | .04020 | .00910 | .30430 | .01351 | -.00190 | .00080 | .00500 | .63900 | .03649 |
| .160 | 8.240 | .40040 | .04820 | .01310 | .40470 | .00125 | -.00210 | .00060 | .00400 | .63700 | .03544 |
| .160 | 10.310 | .50140 | .07640 | .01970 | .50700 | -.01456 | -.00230 | .00050 | .00300 | .63600 | .03566 |
| .160 | 12.390 | .60180 | .09980 | .02130 | .60920 | -.03174 | -.00260 | .00050 | .00700 | .63600 | .03698 |
| .160 | 14.460 | .70760 | .13100 | .02430 | .71790 | -.04982 | -.00330 | .00100 | .02800 | .63700 | .03961 |
| .160 | 16.490 | .81320 | .16990 | .02480 | .82790 | -.06856 | -.00390 | .00210 | .03800 | .63600 | .04073 |
| .160 | 18.580 | .92890 | .24170 | .01990 | .93750 | -.06721 | -.01440 | -.00370 | .02900 | .64300 | .04360 |
| .160 | 20.670 | 1.03020 | .30790 | .01060 | 1.07280 | -.07587 | -.01530 | -.00680 | .03200 | .64600 | .04621 |
| .160 | 22.750 | 1.12450 | .39250 | .00570 | 1.18960 | -.07336 | -.00970 | -.00470 | .02400 | .64800 | .05128 |
| .160 | 24.830 | 1.19910 | .46710 | .01070 | 1.27450 | -.07448 | -.00480 | -.00160 | .01500 | .64600 | .05549 |
| .160 | 26.950 | 1.24200 | .53690 | .01730 | 1.33150 | -.06036 | -.00500 | -.00010 | .01200 | .64500 | .06039 |
| .160 | 29.080 | 1.25620 | .59490 | .02210 | 1.36450 | -.08575 | -.00600 | -.00800 | .02400 | .63500 | .06757 |
| .160 | 30.990 | 1.26620 | .58700 | .03940 | 1.27820 | -.07930 | -.00530 | -.01140 | .02700 | .61600 | .07460 |
| .160 | GRADIENT | .04575 | -.00726 | .00124 | .04629 | -.00056 | -.00001 | -.00007 | -.00010 | -.00063 | -.00016 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAL 7058 (04218)

04218 B19C7 MAF5 M10723V7R6

(RDP231) (19 JUL 73)

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = .000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = 25.000

REFERENCE DATA

WREF = 4.4119 SQ.FT. WREF = 43.9974 INCHES
LREF = 19.2299 INCHES YREF = .0000 INCHES
BREF = 37.9359 INCHES ZREF = 16.2000 INCHES
SCALE = .0405 SCALE

RUN NO. 251/ 0 RWL = 1.17 GRADIENT INTERVAL = -9.00/ 9.00

| WACH | ALPHA | CL | CLF | CLM | CM | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.150 | -.26680 | .04210 | .05070 | -.28910 | .02299 | -.00210 | .00150 | .00500 | .71900 | .03622 |
| .160 | -2.090 | -.17050 | .03450 | .04960 | -.17160 | .02633 | -.00190 | .00150 | .00400 | .75600 | .03602 |
| .160 | -.030 | -.07700 | .02960 | .04960 | -.07710 | .02977 | -.00190 | .00110 | .00400 | .69600 | .03606 |
| .160 | 1.990 | .01270 | .02960 | .05210 | .01370 | .02678 | -.00190 | .00110 | .00400 | -.74700 | .03457 |
| .160 | 4.040 | .10720 | .02960 | .05240 | .10910 | .02197 | -.00180 | .00110 | .00300 | .47200 | .03544 |
| .160 | 6.120 | .20560 | .03460 | .05100 | .20630 | .01293 | -.00190 | .00060 | .00400 | .55600 | .03451 |
| .160 | 8.210 | .30170 | .04340 | .05110 | .30460 | -.01405 | -.00210 | .00050 | .00400 | .59600 | .03442 |
| .160 | 10.250 | .40320 | .05060 | .05070 | .40730 | -.01405 | -.00210 | .00050 | .00300 | .60300 | .03466 |
| .160 | 12.320 | .50600 | .05960 | .05070 | .51130 | -.03069 | -.00270 | .00060 | .00000 | .61300 | .03551 |
| .160 | 14.380 | .60960 | .07910 | .05070 | .61640 | -.04666 | -.00340 | .00120 | .00600 | .61900 | .03697 |
| .160 | 16.440 | .71970 | .10590 | .04590 | .72040 | -.06790 | -.00360 | .00240 | .00800 | .62600 | .03695 |
| .160 | 18.570 | .83200 | .14160 | .03120 | .83540 | -.08629 | -.01350 | -.00330 | .00700 | .63600 | .04053 |
| .160 | 20.630 | .95760 | .17720 | .02420 | .97340 | -.07335 | -.01430 | -.00560 | .00900 | .64000 | .04342 |
| .160 | 22.680 | 1.03440 | .34910 | .01510 | 1.06900 | -.07675 | -.00650 | -.00430 | .02400 | .64400 | .04600 |
| .160 | 24.760 | 1.10100 | .42030 | .01760 | 1.17560 | -.07960 | -.00530 | -.00150 | .01500 | .64400 | .05212 |
| .160 | 26.800 | 1.16220 | .49130 | .02400 | 1.25990 | -.08562 | -.00400 | .00000 | .01400 | .64500 | .05781 |
| .160 | 28.810 | 1.19730 | .55910 | .04990 | 1.26260 | -.09036 | -.00470 | -.00440 | .02300 | .63900 | .06474 |
| .160 | 30.770 | 1.06340 | .54720 | .05960 | 1.21060 | -.08412 | -.00330 | -.01360 | .03200 | .61900 | .07139 |
| .160 | | | -.00146 | .00029 | .04603 | -.00005 | .00075 | -.00305 | -.00020 | -.09722 | -.00015 |

GRADIENT .04551

DATE 21 NOV 73 TABULATED SOURCE DATA - MAIL TOSB (04218)

(RDP22) (19 JUL 73)

04218 519C7 H4F5 W107E23V7R6Z2

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
ELEVON = .000 AILRON = .000
VTLINE = .000 RUDD = .000
SPDRK = 25.000

REDUCTION DATA

SECT = 4.4119 28.47. YMRP = 43.9974 INCHES
LINE = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.8039 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

RUN NO. 252/ 0 RNVL = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| ALPHA | CL | CLM | CLN | CAF | CYN | CEB | CY | KCP/L | CAB |
|-------|--------|--------|---------|---------|---------|---------|--------|--------|---------|
| .160 | -30330 | .00330 | -.31000 | .06035 | -.00160 | .00220 | .00400 | .65000 | .03117 |
| .160 | -6.130 | .00270 | -.22610 | .06696 | -.00160 | .00160 | .00300 | .65400 | .03067 |
| .160 | -.090 | .00550 | -.13960 | .09478 | -.00210 | .00170 | .00300 | .66400 | .03108 |
| .160 | 1.940 | .00860 | -.06270 | .09482 | -.00210 | .00140 | .00300 | .71200 | .03131 |
| .160 | 4.000 | .00830 | .02130 | .09170 | -.00230 | .00110 | .00670 | .36400 | .03065 |
| .160 | 8.080 | .00360 | .12660 | .06066 | -.00190 | .00170 | .00400 | .61300 | .03008 |
| .160 | 11730 | .00670 | .21370 | .07090 | -.00160 | .00190 | .00400 | .63400 | .02956 |
| .160 | 20130 | .00840 | .29810 | .05846 | -.00130 | -.00200 | .00200 | .62700 | .03040 |
| .160 | 27350 | .01780 | .39410 | .04968 | -.00170 | .00190 | .00400 | .63200 | .03073 |
| .160 | 36070 | .01800 | .46540 | .03415 | -.00200 | .00230 | .00100 | .63600 | .03105 |
| .160 | 44190 | .01730 | .56720 | .02308 | -.00200 | .00350 | .01400 | .64000 | .03361 |
| .160 | 53680 | .01470 | .64260 | .01320 | -.00390 | .00320 | .01200 | .64200 | .03592 |
| .160 | 64340 | .01380 | .70210 | .00462 | -.00390 | .00310 | .01500 | .63900 | .03947 |
| .160 | 71220 | .02130 | .83100 | -.00462 | -.00210 | .01060 | .00700 | .63400 | .04519 |
| .160 | 78990 | .03450 | .87310 | -.01272 | -.00210 | .01230 | .00400 | .62400 | .04961 |
| .160 | 84370 | .06000 | .99970 | -.02503 | -.00260 | .00310 | .00300 | .62300 | .05304 |
| .160 | 88920 | .10670 | .99970 | -.03456 | -.00360 | -.00160 | .01600 | .61600 | .05863 |
| .160 | 91180 | .08560 | 1.02030 | -.04591 | -.00350 | -.00230 | .01400 | .61400 | .06999 |
| .160 | 94360 | .10140 | 1.07020 | -.03140 | -.00208 | -.00213 | .01200 | .61200 | -.07002 |
| .160 | 95675 | .05675 | .04035 | .03140 | -.00208 | -.00213 | | | |

GRADIENT

DATE 21 NOV 73 TABULATED SOURCE DATA - NAAL 7058 (0A218)

(RDP233) (19 JUL 73)

0A218 B19C7 M4F5 W107E23V7R6Z2Z3

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = .000 AILRON = .000
VTLINE = .000 RUDDER = .000
SPDRK = 25.000

REFERENCE DATA

SWP = 4.4119 94.FT. YWRP = 43.9974 INCHES
LWRP = 19.2299 INCHES YWRP = .0000 INCHES
SWP = 37.9359 INCHES ZWRP = 16.2000 INCHES
SCALE = .0005 SCALE

RUN NO. 233/ 0 RV/L = 1.70 GRADIENT INTERVAL = -9.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CaT | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|---------|---------|---------|---------|---------|--------|------------|---------|
| .160 | -4.210 | -31820 | .13330 | -.00090 | -.32920 | .10977 | -.00140 | .00190 | .00300 | .64800 | .03017 |
| .160 | -2.160 | -24190 | .12420 | .00120 | -.24600 | .11499 | -.00170 | .00160 | .00400 | .65100 | .03001 |
| .160 | -.120 | -16310 | .11890 | .00450 | -.16340 | .11863 | -.00160 | .00150 | .00400 | .66000 | .02968 |
| .160 | 1.930 | -.08750 | .11550 | .01010 | -.08360 | .11840 | -.00190 | .00150 | .00400 | .69400 | .03067 |
| .160 | 3.940 | -.00760 | .11380 | .01360 | -.00000 | .11411 | -.00210 | .00140 | .00400 | -.32.76700 | .02944 |
| .160 | 6.040 | .09610 | .11330 | .00920 | .10750 | .10264 | -.00170 | .00160 | .00200 | .61800 | .02856 |
| .160 | 8.100 | .17100 | .11830 | .01000 | .18670 | .09304 | -.00130 | .00200 | .00100 | .62900 | .02871 |
| .160 | 10.140 | .24440 | .12510 | .01660 | .26260 | .08012 | -.00140 | .00200 | .00200 | .62800 | .02941 |
| .160 | 12.190 | .33290 | .14120 | .01900 | .35920 | .06775 | -.00170 | .00170 | .00200 | .63000 | .03019 |
| .160 | 14.260 | .42400 | .16710 | .01790 | .45210 | .05750 | -.00180 | .00180 | .00400 | .63500 | .03100 |
| .160 | 16.280 | .50830 | .19840 | .01760 | .54350 | .04792 | -.00310 | .00440 | .00600 | .63700 | .03367 |
| .160 | 18.370 | .56770 | .22870 | .03040 | .61090 | .03810 | -.00340 | .00560 | .00700 | .63100 | .03735 |
| .160 | 20.420 | .62290 | .26590 | .04500 | .67650 | .03180 | -.00450 | .00280 | .01300 | .62500 | .04133 |
| .160 | 22.450 | .66720 | .30310 | .06060 | .73240 | .02538 | -.00540 | .00000 | .01700 | .61900 | .04611 |
| .160 | 24.500 | .72160 | .34400 | .07470 | .79950 | .01359 | -.00390 | .00230 | .00600 | .61500 | .05147 |
| .160 | 26.600 | .80680 | .40430 | .07790 | .90240 | .00215 | -.00340 | .00170 | .00900 | .61800 | .05448 |
| .160 | 28.620 | .85820 | .45340 | .09180 | .97060 | -.01323 | -.00350 | -.00100 | .01100 | .61400 | .06055 |
| .160 | 30.660 | .89230 | .49770 | .10780 | 1.02110 | -.02680 | -.00410 | .00020 | .01100 | .61000 | .06629 |
| .160 | GRADIENT | .03766 | -.00233 | .00185 | .02971 | .00059 | -.00008 | -.00005 | .00010 | -3.26427 | -.00004 |

KAZ18 B19C7 MAFS W107E23VTR6 23

(ROP234) (19 JUL 75)

REFERENCE DATA

CREY = 4.4119 SQ.FT. XMRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9339 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 ROFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUCCER = .000
 SPDENK = 25.000

RUN NO. 234/ 0 RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|---------|---------|--------|---------|---------|---------|---------|---------|---------|----------|---------|
| .160 | -2.7410 | .06980 | .04780 | -.27830 | .04961 | -.00160 | -.00150 | .00150 | .00400 | .71300 | .03708 |
| .160 | -2.090 | .06060 | .04640 | -.16400 | .05393 | -.00170 | -.00140 | .00140 | .00400 | .74200 | .03695 |
| .160 | -1.030 | .05430 | .04590 | -.06920 | .05453 | -.00160 | -.00120 | .00120 | .00300 | .63700 | .03619 |
| .160 | 2.020 | .05060 | .04780 | .07360 | .05050 | -.00160 | -.00110 | .00110 | .00300 | -4.11200 | .03661 |
| .160 | 4.070 | .05150 | .04780 | .09670 | .04476 | -.00170 | -.00120 | .00120 | .00300 | .46700 | .03543 |
| .160 | 6.120 | .05480 | .04730 | .19220 | .03430 | -.00160 | -.00100 | .00100 | .00300 | .55900 | .03510 |
| .160 | 8.210 | .06240 | .04740 | .29230 | .02766 | -.00220 | -.00050 | .00050 | .00300 | .59000 | .03485 |
| .160 | 10.290 | .07400 | .04710 | .38960 | .02449 | -.00220 | -.00050 | .00050 | .00300 | .60900 | .03304 |
| .160 | 12.320 | .09330 | .04710 | .49210 | -.01191 | -.00270 | -.00060 | .00060 | .00300 | .61400 | .03393 |
| .160 | 14.410 | .09740 | .04690 | .59660 | -.02993 | -.00320 | -.00130 | .00130 | .00300 | .62000 | .03687 |
| .160 | 16.480 | .09600 | .04150 | .71190 | -.04675 | -.00360 | -.00260 | .00260 | .00300 | .62800 | .03762 |
| .160 | 18.540 | .08840 | .02750 | .84810 | -.08121 | -.01150 | -.00350 | .00350 | .00300 | .63700 | .04139 |
| .160 | 20.620 | .02720 | .02130 | .96690 | -.06389 | -.01280 | -.00220 | .00220 | .00300 | .64200 | .04372 |
| .160 | 22.700 | 1.02560 | .01560 | 1.06780 | -.07457 | -.01210 | -.00370 | .00370 | .00300 | .64400 | .04640 |
| .160 | 24.770 | 1.08490 | .01750 | 1.16690 | -.07962 | -.00640 | -.00270 | .00270 | .00300 | .64400 | .05113 |
| .160 | 26.810 | 1.14950 | .02260 | 1.24360 | -.08740 | -.00470 | -.00270 | .00270 | .00300 | .64300 | .05574 |
| .160 | 28.850 | 1.15970 | .03430 | 1.04410 | -.09123 | -.00440 | -.00650 | .00650 | .00300 | .63700 | .06172 |
| .160 | 30.790 | 1.07120 | .04550 | 1.19640 | -.07977 | -.00300 | -.00690 | .00690 | .00300 | .61900 | .07169 |
| GRADIENT | .04474 | -.01225 | .00007 | .04569 | -.00064 | -.00001 | -.00004 | -.00004 | -.00015 | -.26049 | -.00016 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7059 (04218)

PAGE 41

04218 B19C7 M4F5 W107E33V7R62523

(RDP255) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0005 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDPRK = 25.000

RUN NO. 255/ 0 RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| WACH | ALPHA | CL | COF | CLM | CN | CAP | CYN | CEL | CY | KCP/L | CAB |
|----------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| .160 | -4.150 | -.30870 | .13400 | .09220 | -.31760 | .11130 | -.00220 | .00200 | .00300 | .71000 | .07193 |
| .160 | -2.170 | -.21440 | .12070 | .04690 | -.21970 | .12070 | -.00190 | .00170 | .00400 | .73200 | .07180 |
| .160 | -.070 | -.12700 | .11830 | .04690 | -.12710 | .11819 | -.00190 | .00170 | .00300 | .79100 | .07076 |
| .160 | 1.900 | -.03890 | .11570 | .04640 | -.03480 | .11707 | -.00200 | .00170 | .00300 | 1.16100 | .07322 |
| .160 | 4.030 | .04630 | .11420 | .09340 | .09480 | .11069 | -.00210 | .00170 | .00300 | .30700 | .07386 |
| .160 | 6.090 | .13770 | .11470 | .09150 | .14910 | .09930 | -.00190 | .00170 | .00200 | .52200 | .07303 |
| .160 | 8.140 | .23140 | .12300 | .05110 | .24650 | .06905 | -.00220 | .00150 | .00300 | .57300 | .07312 |
| .160 | 10.210 | .32510 | .13160 | .05240 | .34330 | .07209 | -.00240 | .00140 | .00400 | .59300 | .07674 |
| .160 | 12.280 | .42720 | .14750 | .05340 | .44860 | .05330 | -.00300 | .00180 | .00500 | .60600 | .07709 |
| .160 | 14.350 | .53150 | .17320 | .05140 | .55760 | .03602 | -.00320 | .00320 | .00500 | .61500 | .07561 |
| .160 | 16.420 | .64340 | .20820 | .04600 | .67600 | .01776 | -.00350 | .00360 | .00600 | .62400 | .07623 |
| .160 | 18.500 | .76270 | .26170 | .03590 | .80430 | .00616 | -.00480 | .00220 | .01400 | .63300 | .07652 |
| .160 | 20.580 | .87230 | .31960 | .03050 | .92910 | -.00731 | -.00600 | .00250 | .01300 | .63700 | .07706 |
| .160 | 22.660 | .97960 | .39120 | .02300 | 1.05490 | -.01652 | -.00970 | .00390 | .01300 | .64100 | .07572 |
| .160 | 24.730 | 1.06610 | .45670 | .02190 | 1.16210 | -.03024 | -.01300 | .00770 | .01900 | .64200 | .07656 |
| .160 | 26.790 | 1.11290 | .51790 | .03250 | 1.22690 | -.03918 | -.01240 | .00330 | .02930 | .64000 | .07435 |
| .160 | 28.790 | 1.07220 | .54070 | .07130 | 1.27010 | -.04246 | -.00760 | -.01030 | .03200 | .62700 | .07849 |
| GRADIENT | .04326 | -.00257 | -.00257 | -.00120 | .04335 | -.00724 | .00020 | -.00203 | -.00005 | -.01646 | .00026 |

04218 B19C7 MAF5 W07E23V7R625

(RDP236) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 80.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 SREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0408 SCALE

PARAMETRIC DATA

BETA = .0000
 ELEVON = .0000
 VTLINC = .0000
 SPOBRK = 25.0000

BDFLAP = -18.0000
 AILRON = .0000
 RUDDER = .0000

RUN NO. 236/ 0 RM/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|--------|---------|---------|---------|---------|---------|---------|--------|
| .160 | -4.180 | -3.0090 | .10510 | .04880 | -30770 | .08300 | -.00200 | .03190 | .00500 | .70800 | .06870 |
| .160 | -2.130 | -2.0750 | .09700 | .04660 | -21090 | .08923 | -.00210 | .03160 | .00500 | .73100 | .06881 |
| .160 | -.090 | -1.1490 | .09240 | .04680 | -11500 | .09234 | -.00193 | .03160 | .00300 | .79900 | .06862 |
| .160 | 1.980 | -.02470 | .09130 | .04710 | -.02150 | .09212 | -.00200 | .03140 | .00400 | 1.43300 | .06864 |
| .160 | 4.030 | .06210 | .09040 | .05020 | .06830 | .08566 | -.00210 | .03160 | .00300 | .37000 | .06942 |
| .160 | 6.080 | .15470 | .08920 | .05070 | .16390 | .07830 | -.00210 | .03160 | .00400 | .53500 | .07107 |
| .160 | 8.150 | .25090 | .10490 | .05070 | .28880 | .06855 | -.00230 | .03150 | .00400 | .57800 | .07093 |
| .160 | 10.210 | .34510 | .11560 | .05150 | .36020 | .05274 | -.00230 | .03150 | .00300 | .59700 | .07213 |
| .160 | 12.300 | .44610 | .13200 | .05250 | .48400 | .03595 | -.00280 | .03180 | .00400 | .61800 | .07294 |
| .160 | 14.350 | .54890 | .15670 | .05180 | .57060 | .01371 | -.00310 | .03320 | .00500 | .61600 | .07230 |
| .160 | 16.430 | .66170 | .18030 | .04810 | .68810 | -.00662 | -.00400 | .03310 | .00700 | .62400 | .07335 |
| .160 | 18.510 | .77770 | .20920 | .03950 | .81340 | -.02015 | -.01000 | .03300 | .01700 | .63100 | .07934 |
| .160 | 20.590 | .87790 | .23600 | .03780 | .92670 | -.02986 | -.01290 | .03220 | .02100 | .63400 | .07934 |
| .160 | 22.660 | .96190 | .35190 | .04010 | 1.03320 | -.04593 | -.01130 | -.03390 | .02100 | .63500 | .07932 |
| .160 | 24.710 | 1.03390 | .42280 | .03720 | 1.11600 | -.04826 | -.01110 | -.03160 | .02200 | .63700 | .07037 |
| .160 | 26.770 | 1.08280 | .49140 | .04580 | 1.18790 | -.04903 | -.00950 | .00300 | .01300 | .63500 | .06917 |
| .160 | 28.780 | 1.07680 | .53260 | .07100 | 1.20180 | -.04940 | -.00880 | -.03670 | .02800 | .62800 | .07779 |
| .160 | 30.750 | 1.03130 | .55370 | .11010 | 1.19340 | -.05160 | -.00330 | -.03470 | .01900 | .61500 | .08231 |
| .160 | GRADIENT | .04435 | -.00171 | .00018 | .01594 | .01142 | -.00300 | -.03702 | -.00024 | .00311 | .00306 |

0A21B B19C7 H4F5 M10TE23VTR624

(RDP237) (19 JUL 73)

REFERENCE DATA

BRP = 4.4119 50.FT. XMRP = 43.5974 INCHES
 LMRP = 19.2299 INCHES YMRP = .0000 INCHES
 BRP = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDARK = 25.000

RUN NO. 237/ 0 RV/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CSL | CY | XCP/L | CAB |
|------|--------|---------|---------|---------|---------|---------|---------|---------|--------|---------|--------|
| .100 | -4.170 | -.28600 | .07750 | .03260 | -.30370 | .09552 | -.00340 | .00040 | .01200 | .71300 | .03605 |
| .100 | -2.110 | -.20310 | .07070 | .05070 | -.20760 | .06310 | -.00410 | .00070 | .01600 | .73900 | .03571 |
| .100 | -.090 | -.11110 | .06740 | .04900 | -.11120 | .06730 | -.00430 | -.00030 | .01600 | .81200 | .03553 |
| .100 | 1.860 | -.02230 | .06530 | .04920 | -.02010 | .06606 | -.00390 | -.00020 | .01300 | 1.53100 | .03654 |
| .100 | 4.030 | .06820 | .06630 | .05050 | .07270 | .06133 | -.00420 | -.00040 | .01400 | .59400 | .03666 |
| .100 | 6.100 | .16350 | .07180 | .04960 | .17000 | .05405 | -.00420 | -.00060 | .01400 | .54200 | .03678 |
| .100 | 8.160 | .25940 | .08020 | .04770 | .26610 | .04257 | -.00420 | -.00060 | .01400 | .50400 | .03623 |
| .100 | 10.230 | .36060 | .09400 | .04620 | .37160 | .02646 | -.00410 | -.00120 | .01400 | .60400 | .03612 |
| .100 | 12.300 | .46070 | .11360 | .04620 | .47430 | .01286 | -.00410 | -.00100 | .01300 | .61300 | .03695 |
| .100 | 14.350 | .56210 | .13690 | .04500 | .57900 | -.00482 | -.00470 | -.00060 | .01300 | .62100 | .03613 |
| .100 | 16.430 | .66590 | .17260 | .04250 | .68750 | -.02279 | -.00950 | -.00020 | .02400 | .63600 | .04092 |
| .100 | 18.550 | .76970 | .23015 | .03070 | .82180 | -.03311 | -.00950 | -.00020 | .02600 | .64000 | .04230 |
| .100 | 20.610 | .89040 | .26790 | .02470 | .93470 | -.04399 | -.01120 | -.00210 | .03200 | .64300 | .04601 |
| .100 | 22.660 | .98000 | .35790 | .01770 | 1.05150 | -.05113 | -.01150 | -.00570 | .02600 | .64400 | .05046 |
| .100 | 24.720 | 1.06590 | .43250 | .01660 | 1.14910 | -.05299 | -.00900 | -.00540 | .02200 | .64500 | .05520 |
| .100 | 26.790 | 1.13670 | .51300 | .01560 | 1.24770 | -.05533 | -.00950 | -.00420 | .02700 | .64100 | .06111 |
| .100 | 28.820 | 1.17900 | .56290 | .05000 | 1.31400 | -.05760 | -.00640 | -.00590 | .07600 | .62400 | .07371 |
| .100 | 30.780 | 1.07610 | .56960 | .06590 | 1.22630 | -.04438 | -.01030 | -.00390 | .02005 | .00046 | .00010 |
| .100 | | .04474 | -.00136 | -.00030 | .04569 | .00071 | -.00007 | -.00009 | | | |

GRADIENT

DATE 21 NOV 73

TABULATED SOURCE DATA - NAL 7058 (04E18)

PAGE 44

(RDP238) (19 JUL 73)

04E18 818C7 MIF5 W107E23V7R624 Z3

REFERENCE DATA

REF = 4.4119 SQ.FT. WARP = 43.5974 INCHES
 LREF = 19.2299 INCHES YARP = .0000 INCHES
 BREF = 37.9359 INCHES ZARP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .0000 BDFLAP = -18.0000
 ELEVON = .0000 AILRON = .0000
 VTILNC = .0000 RUDDER = .0000
 SPDRK = 25.0000

RUN NO. 236/ 0 RVL = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|--------|----------|---------|---------|---------|---------|---------|---------|--------|---------|--------|
| .100 | -4.180 | -1.29000 | .10560 | .04920 | -.30560 | .08355 | -.00340 | .00060 | .01300 | .70900 | .03720 |
| .120 | -2.120 | -.20500 | .09610 | .04770 | -.21330 | .08828 | -.00400 | .00020 | .01500 | .73200 | .03731 |
| .140 | -.060 | -.11630 | .09200 | .04550 | -.11640 | .09134 | -.00420 | .00000 | .01600 | .79100 | .03717 |
| .160 | 1.980 | -.02360 | .08820 | .04500 | -.02660 | .08923 | -.00410 | -.00010 | .01500 | 1.27800 | .03746 |
| .180 | 4.010 | .03730 | .08750 | .04690 | .08330 | .08334 | -.00420 | .00020 | .01400 | .37600 | .03639 |
| .200 | 8.080 | .14860 | .09170 | .04920 | .15670 | .07333 | -.00440 | .00030 | .01500 | .34300 | .03711 |
| .220 | 12.520 | .24600 | .09830 | .04410 | .25940 | .06216 | -.00440 | .00080 | .01600 | .36700 | .03771 |
| .240 | 16.410 | .34360 | .10860 | .04310 | .35760 | .04711 | -.00410 | .00060 | .01400 | .30500 | .03607 |
| .260 | 20.590 | .44500 | .12930 | .04230 | .46230 | .03169 | -.00440 | .00090 | .01500 | .81500 | .03750 |
| .280 | 24.730 | .54430 | .15400 | .04230 | .56550 | .01431 | -.00480 | .00070 | .01600 | .62200 | .03925 |
| .300 | 28.850 | .65100 | .19020 | .03790 | .67830 | -.00155 | -.00470 | .00060 | .01500 | .62900 | .03691 |
| .320 | 32.950 | .77500 | .24460 | .02700 | .81120 | -.01355 | -.00660 | .00010 | .02400 | .63700 | .04081 |
| .340 | 37.050 | .89640 | .30590 | .01840 | .93740 | -.02534 | -.01040 | .00020 | .02700 | .64200 | .04242 |
| .360 | 41.150 | .99940 | .37690 | .01160 | 1.05630 | -.03330 | -.01260 | .00050 | .03500 | .64500 | .04639 |
| .380 | 45.250 | 1.07910 | .45940 | .00760 | 1.17240 | -.03425 | -.00990 | .00020 | .03000 | .64700 | .05081 |
| .400 | 49.350 | 1.15100 | .53560 | .00600 | 1.26600 | -.04291 | -.00920 | .00090 | .02900 | .64700 | .05417 |
| .420 | 53.450 | 1.16140 | .58600 | .03270 | 1.30000 | -.04674 | -.00840 | .00950 | .03500 | .64000 | .05916 |
| .440 | 57.550 | 1.02700 | .57660 | .09080 | 1.17750 | -.02955 | -.00840 | .04030 | .06600 | .62100 | .07706 |
| .460 | 61.650 | .04355 | -.00216 | -.00032 | .04513 | .00003 | -.00206 | .00009 | .00010 | -.00969 | .00012 |

GRADIENT

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A218)

PAGE 45

0A218 B19C7 MAFS M10723V7R624

(RDP239) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 56.FT. XREF = 43.5974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFAP = -18.000
 ELEVON = 5.000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = 25.000

RUN NO. 259/ 6 RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CEL | CY | XCP/L | CAB |
|------|--------|---------|--------|---------|---------|---------|---------|---------|--------|---------|--------|
| .160 | -4.110 | -.19600 | .07290 | .00750 | -.20280 | .05936 | -.00330 | .00100 | .01200 | .66300 | .03677 |
| .160 | -2.060 | -.10410 | .06910 | .00590 | -.10650 | .06739 | -.00410 | .00030 | .01600 | .67000 | .03665 |
| .160 | .000 | -.01340 | .06770 | .00430 | -.01340 | .06779 | -.00430 | .00010 | .01700 | .77100 | .03665 |
| .160 | 2.040 | .07660 | .06690 | .00430 | .08120 | .06607 | -.00410 | .00000 | .01600 | .63000 | .03914 |
| .160 | 4.100 | .17070 | .07420 | .00370 | .17560 | .06181 | -.00430 | -.00030 | .01600 | .64100 | .03913 |
| .160 | 6.160 | .26560 | .08270 | .00250 | .27500 | .05369 | -.00400 | -.00040 | .01500 | .64600 | .03661 |
| .160 | 8.220 | .36320 | .09490 | .00020 | .37500 | .04200 | -.00450 | -.00090 | .01700 | .64900 | .03645 |
| .160 | 10.290 | .46020 | .11050 | .00000 | .47250 | .02649 | -.00410 | -.00050 | .01500 | .64900 | .03906 |
| .160 | 12.360 | .55680 | .13320 | .00000 | .57440 | .01039 | -.00450 | -.00100 | .01700 | .64900 | .03976 |
| .160 | 14.430 | .65780 | .16290 | .00000 | .67760 | -.00641 | -.00490 | -.00010 | .01700 | .65000 | .04020 |
| .160 | 16.500 | .76310 | .20030 | .00000 | .78960 | -.02469 | -.00510 | .00030 | .01600 | .65100 | .04132 |
| .160 | 18.570 | .88010 | .25930 | .00000 | .91690 | -.03451 | -.01020 | .00020 | .03700 | .65900 | .04242 |
| .160 | 20.650 | .98020 | .32260 | .00000 | 1.03110 | -.04371 | -.01290 | .00000 | .03600 | .65700 | .04447 |
| .160 | 22.730 | 1.07260 | .39710 | .00000 | 1.14280 | -.04833 | -.01350 | -.00760 | .03900 | .65900 | .04771 |
| .160 | 24.770 | 1.15920 | .47290 | .00000 | 1.23250 | -.04797 | -.01860 | -.00630 | .02900 | .65700 | .05306 |
| .160 | 26.840 | 1.21040 | .55930 | .00000 | 1.33250 | -.04756 | -.01690 | -.00260 | .02600 | .65600 | .05926 |
| .160 | 28.870 | 1.23220 | .62170 | .00000 | 1.37680 | -.05116 | -.01620 | -.00000 | .03100 | .64900 | .06439 |
| .160 | 30.820 | 1.11030 | .61630 | .00000 | 1.26950 | -.03965 | -.01020 | -.03480 | .08200 | .63100 | .07800 |
| .160 | .04465 | .00012 | .00012 | -.00045 | .04603 | .00135 | -.00010 | -.00015 | .00039 | -.00407 | .00006 |

GRADIENT

(RD240) (19 JUL 73)

0A21B B19C7 MAF5 M07E23V7R023

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = 5.000 AILRON = .000
VTLINC = .000 RUDDER = .000
SPDRK = 25.000

REFERENCE DATA

WREF = 4.4119 SQ.FT. WREF = 43.5974 INCHES
LREF = 19.2299 INCHES YREF = .0000 INCHES
BREF = 37.9339 INCHES ZREF = 16.2000 INCHES
SCALE = .0405 SCALE

RUN NO. 240/ 0 RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CEL | CY | XCP/L | CAB |
|------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.100 | -.17660 | .06350 | .00320 | -.18070 | .05075 | -.00160 | .00160 | .00300 | .66000 | .04060 |
| .160 | -2.040 | -.08350 | .05780 | .00410 | -.08550 | .05484 | -.00150 | .00170 | .00300 | .66700 | .04020 |
| .160 | .000 | .00910 | .05540 | .00360 | .00910 | .05542 | -.00150 | .00160 | .00400 | .50100 | .03930 |
| .160 | 2.050 | .10030 | .05450 | .00450 | .10240 | .05091 | -.00170 | .00140 | .00400 | .63300 | .03857 |
| .160 | 4.110 | .19300 | .05860 | .00400 | .19670 | .04467 | -.00170 | .00120 | .00400 | .64200 | .03707 |
| .160 | 6.170 | .28930 | .06490 | .00240 | .29460 | .03346 | -.00190 | .00090 | .00500 | .64600 | .03714 |
| .160 | 8.220 | .38430 | .07460 | .00260 | .39110 | .01888 | -.00200 | .00100 | .00500 | .64700 | .03727 |
| .160 | 10.310 | .48130 | .08090 | .00320 | .48980 | .00326 | -.00240 | .00050 | .00600 | .64700 | .03710 |
| .160 | 12.360 | .57750 | .11280 | .00410 | .58810 | -.01339 | -.00280 | .00090 | .00700 | .64700 | .03722 |
| .160 | 14.440 | .66280 | .14270 | .00330 | .69680 | -.03202 | -.00340 | .00130 | .00700 | .64800 | .04693 |
| .160 | 16.570 | .78990 | .16260 | .00160 | .80930 | -.04915 | -.00390 | .00230 | .00900 | .65000 | .03976 |
| .160 | 18.700 | .90800 | .24970 | -.01540 | .94000 | -.05322 | -.01200 | -.00350 | .02700 | .65500 | .04230 |
| .160 | 20.880 | 1.01590 | .31470 | -.02270 | 1.06160 | -.06408 | -.01390 | -.00250 | .03000 | .65700 | .04601 |
| .160 | 22.750 | 1.12130 | .39920 | -.03260 | 1.16850 | -.06327 | -.00740 | .00130 | .01900 | .65900 | .05007 |
| .160 | 24.610 | 1.19970 | .47240 | -.03140 | 1.26730 | -.07458 | -.00670 | .00370 | .01700 | .66000 | .05424 |
| .160 | 26.800 | 1.22410 | .52960 | -.01300 | 1.33130 | -.08005 | -.00720 | -.00180 | .02400 | .65300 | .05866 |
| .160 | 28.830 | 1.19660 | .56090 | .02720 | 1.31000 | -.08103 | -.00730 | -.01370 | .03700 | .64200 | .06093 |
| .160 | 30.760 | 1.05210 | .55710 | .06760 | 1.18900 | -.05956 | -.00030 | -.01720 | .02700 | .62200 | .07767 |
| .170 | GRADIENT | .04501 | -.00064 | -.00010 | .04596 | -.00078 | -.00002 | -.00005 | -.00005 | -.00340 | -.00042 |

0A21B B19C7 MAF5 M107E23V7R622

(RDP241) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XREF = 43.9974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 SCFLAP = -18.000
 ELEVON = 5.000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = 25.000

RUN NO. 241/ D RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CSL | CY | XCP/L | CAB |
|------|--------|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.160 | -23150 | .04770 | -.03260 | -.23900 | .06020 | -.00200 | .00120 | .00400 | .59900 | .03395 |
| .160 | -2.120 | -15090 | .09410 | -.03140 | -.15430 | .06651 | -.00240 | .00110 | .00600 | .57400 | .03376 |
| .160 | -.070 | -.06790 | .09390 | -.02770 | -.06800 | .09387 | -.00220 | .00070 | .00500 | .49900 | .03417 |
| .160 | 1.970 | .01090 | .09670 | -.02390 | .01420 | .08635 | -.00190 | .00060 | .00500 | 1.26600 | .03339 |
| .160 | 4.040 | .09090 | .09770 | -.02030 | .09760 | .09112 | -.00270 | .00080 | .00400 | .72800 | .03396 |
| .160 | 6.110 | .16910 | .10030 | -.02240 | .19670 | .07959 | -.00160 | .00010 | .00600 | .69100 | .03240 |
| .160 | 8.140 | .27120 | .11030 | -.02360 | .28410 | .07077 | -.00230 | .00060 | .00500 | .64000 | .03253 |
| .160 | 10.200 | .34620 | .12510 | -.01630 | .36220 | .05768 | -.00150 | .00140 | .00300 | .66900 | .03359 |
| .160 | 12.290 | .43590 | .14180 | -.01500 | .45600 | .04618 | -.00270 | .00110 | .00300 | .66100 | .03336 |
| .160 | 14.310 | .52870 | .16960 | -.01460 | .55430 | .03365 | -.00300 | .00040 | .00600 | .65900 | .03466 |
| .160 | 16.400 | .63220 | .20680 | -.01660 | .66590 | .02280 | -.00450 | .00220 | .01500 | .68000 | .03686 |
| .160 | 18.450 | .71640 | .25330 | -.01860 | .78020 | .01356 | -.00470 | .00130 | .01700 | .65900 | .03965 |
| .160 | 20.490 | .79510 | .30180 | -.01430 | .85040 | .00413 | -.00450 | -.00010 | .02100 | .63600 | .04353 |
| .160 | 22.530 | .84330 | .34490 | .00110 | .91110 | -.00461 | -.00370 | .00580 | .01700 | .64900 | .04765 |
| .160 | 24.590 | .86590 | .38120 | .03140 | .94420 | -.01291 | -.00210 | .00620 | .00700 | .63700 | .05420 |
| .160 | 26.630 | .91660 | .43190 | .04430 | 1.01300 | -.02486 | -.00300 | .00390 | .01200 | .63300 | .05702 |
| .160 | 28.690 | .94980 | .48060 | .06620 | 1.06390 | -.03355 | -.00360 | -.00290 | .01600 | .62600 | .06338 |
| .160 | 30.700 | .96400 | .52930 | .08070 | 1.11640 | -.04733 | -.00340 | -.00280 | .01300 | .62300 | .06993 |
| .160 | | | .03937 | .00116 | .04096 | .00145 | .00012 | -.00005 | -.00005 | .04603 | -.00002 |

GRADIENT

0A21B B19C7 MAF3 M07E23V7R6Z5

(RDP242) (19 JUL 75)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XREF = 43.5974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = 5.000 AIRCN = .000
 VTLINE = .000 RUDDER = .000
 SPOBRK = 25.000

RUN NO. 242/ 0 RV/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| WACH | ALPHA | CL | CLF | CLM | CM | CAF | CYN | CBL | CY | XCF/L | CAB |
|------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| .100 | -4.140 | -23340 | .10130 | .01870 | -24010 | .08421 | -.00190 | .00210 | .00500 | .67600 | .06820 |
| .100 | -2.060 | -113670 | .09540 | .01790 | -14210 | .09034 | -.00190 | .00180 | .00400 | .69600 | .06911 |
| .100 | -.020 | -.04970 | .09260 | .01740 | -.04980 | .09260 | -.00190 | .00160 | .00200 | .77800 | .06996 |
| .100 | 2.040 | .04400 | .09280 | .01800 | .04730 | .09120 | -.00190 | .00150 | .00200 | .50900 | .07008 |
| .100 | 4.030 | .13760 | .09760 | .01780 | .14410 | .08773 | -.00200 | .00190 | .00300 | .60400 | .06938 |
| .100 | 6.150 | .22790 | .10240 | .01720 | .23750 | .07744 | -.00220 | .00150 | .00400 | .82300 | .07078 |
| .100 | 8.220 | .32570 | .11520 | .01640 | .33880 | .06742 | -.00240 | .00190 | .00500 | .63200 | .07143 |
| .100 | 10.270 | .41940 | .12690 | .01790 | .43530 | .05010 | -.00270 | .00170 | .00500 | .63400 | .07186 |
| .100 | 12.340 | .51770 | .14650 | .01960 | .53700 | .03250 | -.00310 | .00190 | .00500 | .63600 | .07372 |
| .100 | 14.420 | .62440 | .17350 | .01880 | .64850 | .01445 | -.00350 | .00200 | .00600 | .63900 | .07482 |
| .100 | 16.480 | .73180 | .21150 | .01390 | .76150 | -.00464 | -.00400 | .00330 | .00700 | .64300 | .07824 |
| .100 | 18.580 | .85410 | .26700 | .00430 | .89460 | -.01909 | -.01090 | .00300 | .00900 | .64700 | .08277 |
| .100 | 20.640 | .94990 | .32550 | .00250 | 1.03070 | -.03034 | -.01420 | .00500 | .02300 | .64900 | .08169 |
| .100 | 22.690 | 1.02870 | .38580 | .00390 | 1.09720 | -.04269 | -.01260 | .00240 | .02400 | .64600 | .07861 |
| .100 | 24.740 | 1.09500 | .45360 | .00370 | 1.18250 | -.04549 | -.01080 | .00220 | .02100 | .64800 | .07268 |
| .100 | 26.790 | 1.12370 | .52270 | .01680 | 1.23860 | -.04004 | -.00410 | .00190 | .01900 | .64400 | .07308 |
| .100 | 28.790 | 1.10610 | .59060 | .04890 | 1.23480 | -.05020 | -.00410 | .00160 | .02100 | .63500 | .08284 |
| .100 | 30.800 | 1.08540 | .57540 | .08530 | 1.20980 | -.05127 | -.00420 | .00150 | .02200 | .62300 | .08449 |
| .100 | | .04524 | -.03050 | -.00310 | .04686 | .00039 | -.00001 | -.00307 | -.00030 | -.01841 | .07016 |

GRADIENT

0A218 819C7 M4F5 W107E23V7R6

REFERENCE DATA

SREF = 4.4119 SQ.FT. YGRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YGRP = .0000 INCHES
 BREF = 37.9359 INCHES ZGRP = 16.2000 INCHES
 SCALE = .0403 SCALE

PARAMETRIC DATA

| | | | | | |
|--------|---|--------|--------|---|---------|
| BETA | = | .000 | DOFLAP | = | -16.000 |
| ELEVON | = | 5.000 | AILRON | = | .000 |
| VTLINC | = | .000 | RUDDER | = | .000 |
| SPOBRK | = | 25.000 | | | |

RUN NO. 243/ 0 RAVL = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CRF | CLM | CN | CAP | CYN | CBL | CY | KCP/L | CAB |
|---------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.110 | -1.6880 | .03750 | .00640 | -.17110 | .02550 | -.00180 | .00170 | .00500 | .66500 | .05925 |
| .160 | -2.040 | -.07440 | .03270 | .00520 | -.07560 | .03004 | -.00190 | .00160 | .00600 | .67500 | .05965 |
| .160 | .000 | .01630 | .03130 | .00460 | .01650 | .05150 | -.00150 | .00160 | .00500 | .65500 | .05887 |
| .160 | 2.050 | .11160 | .03250 | .00590 | .11290 | .02856 | -.00190 | .00150 | .00500 | .63000 | .05785 |
| .160 | .20710 | .03720 | .03520 | .00520 | .20920 | .02229 | -.00190 | .00150 | .00500 | .64000 | .05741 |
| .160 | 6.170 | .04570 | .03360 | .00340 | .30900 | .01264 | -.00190 | .00110 | .00500 | .64500 | .05705 |
| .160 | 8.250 | .40220 | .05810 | .00340 | .40630 | -.00004 | -.00200 | .00260 | .00500 | .64500 | .05651 |
| .160 | 10.300 | .50060 | .07310 | .00370 | .50503 | -.01562 | -.00250 | .00260 | .00700 | .64700 | .05668 |
| .160 | 12.370 | .60050 | .09810 | .00510 | .60740 | -.03283 | -.00260 | .00290 | .00700 | .64700 | .05605 |
| .160 | 14.430 | .70570 | .12640 | .00400 | .71550 | -.05106 | -.00350 | .00150 | .00800 | .64700 | .05931 |
| .160 | 16.920 | .81180 | .16950 | .00000 | .82620 | -.06935 | -.00350 | .00210 | .00900 | .64900 | .04012 |
| .160 | 18.560 | .92500 | .23770 | -.01370 | .95070 | -.06662 | -.01440 | -.00300 | .00900 | .65500 | .04396 |
| .160 | 20.660 | 1.02710 | .30570 | -.02150 | 1.06990 | -.07642 | -.01540 | -.00750 | .03400 | .65700 | .04655 |
| .160 | 22.720 | 1.11330 | .36650 | -.02620 | 1.17620 | -.07754 | -.00945 | -.00450 | .02500 | .65800 | .05142 |
| .160 | 24.770 | 1.17370 | .45940 | -.02440 | 1.25620 | -.07469 | -.00550 | -.00150 | .01700 | .65600 | .05646 |
| .160 | 26.620 | 1.21680 | .52620 | -.01290 | 1.32290 | -.07918 | -.00560 | -.00180 | .01500 | .65300 | .06154 |
| .160 | 28.630 | 1.19930 | .56440 | .02070 | 1.32260 | -.08391 | -.00440 | -.00640 | .02300 | .64500 | .06777 |
| .160 | 30.780 | 1.11050 | .56950 | .07590 | 1.24550 | -.07686 | -.00360 | -.01410 | .03400 | .62700 | .07645 |
| GRAND AVERAGE | | .04564 | -.00006 | -.00026 | .04619 | -.00037 | -.00001 | -.00006 | -.00005 | -.00441 | -.00022 |

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TABLED SOURCE DATA - NAAL 7058 (0A21B)

(RDP244) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .00730 INCHES
 BRP = 37.9399 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDI LAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDRK = 23.000

RUN NO. 244/ 0 RV/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| WACH | ALPHA | CL | CLF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .100 | -4.150 | -.28040 | .04080 | .04640 | -.26260 | .02191 | -.00190 | .00110 | .00400 | .71400 | .03613 |
| .100 | -2.100 | -.16250 | .03390 | .04540 | -.16570 | .02768 | -.00200 | .00100 | .00400 | .75000 | .03602 |
| .100 | -.020 | -.07130 | .02940 | .04310 | -.07130 | .02940 | -.00180 | .00100 | .00300 | .88200 | .03532 |
| .100 | 2.020 | .01980 | .02780 | .04730 | .02060 | .02713 | -.00190 | .00080 | .00400 | -.19300 | .03569 |
| .100 | 4.080 | .11430 | .03010 | .04720 | .11820 | .02197 | -.00190 | .00080 | .00300 | .50000 | .03485 |
| .100 | 6.130 | .21130 | .03510 | .04670 | .21380 | .01234 | -.00200 | .00070 | .00400 | .56900 | .03479 |
| .100 | 8.200 | .30940 | .04440 | .04560 | .31290 | -.00018 | -.00210 | .00040 | .00500 | .59500 | .03438 |
| .100 | 10.240 | .40710 | .05920 | .04600 | .41110 | -.01405 | -.00230 | .00010 | .00400 | .61800 | .03402 |
| .100 | 12.300 | .50980 | .07980 | .04560 | .51500 | -.03122 | -.00290 | .00020 | .00600 | .61700 | .03547 |
| .100 | 14.370 | .61390 | .10620 | .04460 | .62050 | -.04934 | -.00330 | .00080 | .00700 | .62300 | .03656 |
| .100 | 16.470 | .72720 | .14340 | .04090 | .73800 | -.06866 | -.00380 | .00180 | .00800 | .62900 | .03797 |
| .100 | 18.540 | .84030 | .21130 | .02480 | .86590 | -.08686 | -.01380 | -.00340 | .02600 | .63900 | .04010 |
| .100 | 20.620 | .94960 | .27530 | .01990 | .98570 | -.07676 | -.01420 | -.00620 | .02700 | .64300 | .04357 |
| .100 | 22.680 | 1.04480 | .35320 | .00560 | 1.10020 | -.07705 | -.00570 | -.00570 | .02400 | .64700 | .04751 |
| .100 | 24.730 | 1.10890 | .42350 | .00790 | 1.18440 | -.07976 | -.00570 | -.00210 | .01600 | .64700 | .05161 |
| .100 | 26.800 | 1.16530 | .49380 | .01360 | 1.26270 | -.08486 | -.00500 | -.00260 | .01400 | .64900 | .05672 |
| .100 | 28.820 | 1.17920 | .54470 | .03710 | 1.29220 | -.08946 | -.00370 | -.00340 | .01900 | .63900 | .06169 |
| .100 | 30.780 | 1.10060 | .58640 | .06680 | 1.23030 | -.08536 | -.00350 | -.00870 | .02900 | .62300 | .07073 |
| GRADIENT | .04253 | -.00134 | -.00002 | .00017 | .04600 | -.00002 | .00000 | -.00004 | -.00010 | -.06672 | -.00014 |

0A21B B19C7 MAF6 W107E23V7R6

(RDP243) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. YMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFAP = .000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SFDRBK = 25.000

RUN NO. 245/ 0 RH/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|--------|---------|---------|---------|---------|---------|---------|---------|--------|---------|---------|
| .160 | -4.110 | -.22870 | .03660 | .02330 | -.23080 | .02009 | -.00180 | .00120 | .00400 | .69000 | .03305 |
| .160 | -2.080 | -.13390 | .03080 | .02430 | -.13490 | .02596 | -.00180 | .00100 | .00400 | .71600 | .03321 |
| .160 | -.010 | -.03940 | .02800 | .02430 | -.03940 | .02804 | -.00180 | .00090 | .00300 | .88200 | .03246 |
| .160 | 2.020 | .03240 | .02730 | .02380 | .03340 | .02552 | -.00180 | .00080 | .00500 | .47100 | .03234 |
| .160 | 4.090 | .14820 | .03050 | .02540 | .19000 | .01994 | -.00200 | .00060 | .00400 | .58700 | .03218 |
| .160 | 6.140 | .24450 | .03710 | .02440 | .24700 | .01071 | -.00220 | .00040 | .00500 | .61300 | .03180 |
| .160 | 8.210 | .34230 | .04740 | .02350 | .34560 | -.00199 | -.00250 | .00020 | .00700 | .62400 | .03174 |
| .160 | 10.270 | .44180 | .06310 | .02360 | .44590 | -.01673 | -.00290 | .00010 | .00600 | .63000 | .03205 |
| .160 | 12.350 | .54530 | .08460 | .02270 | .55080 | -.03399 | -.00290 | .00060 | .00700 | .63400 | .03397 |
| .160 | 14.410 | .64950 | .11460 | .02160 | .65760 | -.09063 | -.00320 | .00060 | .00800 | .63700 | .03476 |
| .160 | 16.480 | .76340 | .15250 | .01700 | .77240 | -.06960 | -.00350 | .00170 | .00800 | .64100 | .03647 |
| .160 | 18.550 | .87080 | .22050 | .00130 | .89570 | -.06804 | -.00360 | -.00370 | .02800 | .64900 | .04034 |
| .160 | 20.670 | .97940 | .28810 | -.00740 | 1.01730 | -.07828 | -.01410 | -.00630 | .03100 | .65200 | .04328 |
| .160 | 22.720 | 1.07420 | .36720 | -.01810 | 1.13270 | -.07822 | -.00910 | -.00560 | .02400 | .65500 | .04678 |
| .160 | 24.760 | 1.14980 | .44170 | -.01730 | 1.22530 | -.07881 | -.00500 | -.00240 | .01600 | .65500 | .05293 |
| .160 | 26.820 | 1.20100 | .51370 | -.01340 | 1.30360 | -.08342 | -.00270 | -.00190 | .01200 | .65300 | .05664 |
| .160 | 28.840 | 1.21990 | .56790 | .00850 | 1.33900 | -.08921 | -.00360 | -.00080 | .02100 | .64700 | .06229 |
| .160 | 30.820 | 1.13900 | .58210 | .05570 | 1.27640 | -.08380 | -.00310 | -.01000 | .02900 | .63900 | .07108 |
| .160 | .04886 | -.00078 | -.00006 | .00006 | .04634 | -.00004 | -.00001 | -.00007 | .00005 | -.02193 | -.00012 |

GRADIENT

0A21B B19C7 MAF6 W1DTE23V7R6

(RDP246) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .7000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = 10.000
 ELEVON = .000 AIRCON = .000
 VTINC = .000 RUDDER = .000
 SPDRK = 25.000

RUN NO. 246/ 0 RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MA3H | ALPHA | CL | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|----------|---------|---------|---------|---------|---------|--------|--------|--------|
| .160 | -4.130 | -1.17980 | -.00660 | -.18200 | .02363 | -.00160 | .00130 | .00500 | .63600 | .03515 |
| .160 | -2.030 | -.06320 | -.00710 | -.09430 | .02897 | -.00150 | .00120 | .00400 | .61800 | .03497 |
| .160 | .010 | .01250 | -.00770 | .01250 | .03146 | -.00150 | .00100 | .00400 | .87700 | .03412 |
| .160 | 2.050 | .10320 | -.00700 | .10820 | .02801 | -.00160 | .00100 | .00400 | .67400 | .03541 |
| .160 | 4.100 | .20230 | -.00660 | .20440 | .02233 | -.00190 | .00070 | .00600 | .66500 | .03614 |
| .160 | 6.160 | .29980 | -.00590 | .30290 | .01248 | -.00180 | .00070 | .00500 | .66300 | .03791 |
| .160 | 8.220 | .39960 | -.00500 | .40360 | -.00015 | -.00210 | .00060 | .00600 | .66111 | .03939 |
| .160 | 10.370 | .49940 | -.00420 | .50490 | -.01478 | -.00230 | .00010 | .00600 | .65900 | .03889 |
| .160 | 12.370 | .60160 | -.00370 | .60900 | -.03165 | -.00250 | .00060 | .00700 | .65700 | .03963 |
| .160 | 14.430 | .70500 | -.00370 | .71530 | -.04930 | -.00320 | .00100 | .00800 | .65600 | .04018 |
| .160 | 16.510 | .81300 | -.00340 | .82790 | -.06204 | -.00360 | .00210 | .01000 | .65600 | .04130 |
| .160 | 18.570 | .91940 | -.00340 | .93110 | -.06448 | -.01390 | .00360 | .03200 | .66300 | .04549 |
| .160 | 20.660 | 1.02570 | -.00340 | 1.03910 | -.07186 | -.01460 | -.00620 | .03300 | .66400 | .04783 |
| .160 | 22.720 | 1.12100 | -.00340 | 1.13620 | -.07022 | -.00870 | -.00530 | .02400 | .66600 | .05240 |
| .160 | 24.790 | 1.19570 | -.00300 | 1.26260 | -.07479 | -.00460 | -.00200 | .01600 | .66500 | .05804 |
| .160 | 26.840 | 1.25150 | -.00300 | 1.36300 | -.07832 | -.00260 | -.00140 | .01300 | .66300 | .06124 |
| .160 | 28.890 | 1.29650 | -.00260 | 1.40190 | -.08432 | -.00300 | -.00420 | .01900 | .65700 | .06573 |
| .160 | 30.970 | 1.21200 | .01060 | 1.36300 | -.08194 | -.00270 | -.00930 | .02800 | .64800 | .07703 |
| .160 | GRADIENT | .04633 | -.00022 | .04685 | -.00017 | -.00003 | -.00007 | .00010 | .00561 | .00012 |

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TABULATED SOURCE DATA - NAAL 703B (04218)

04218 B19C7 MAF6 W107E23V7R6

(RDP247) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2259 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 SIDFLAP = 15.000
 ELEVON = .000 AILRON = .000
 VTILINC = .000 RUDDER = .000
 SFCBRK = 25.000

RUN NO. 247/ 0 RW/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|---------|---------|---------|---------|--------|--------|--------|-----|
| .160 | -1.13710 | .03650 | -.03060 | -.13950 | .02870 | -.00170 | .00120 | .00400 | .56600 | .04107 | |
| .160 | -4.0950 | .03610 | -.03140 | -.04170 | .03469 | -.00170 | .00110 | .00400 | .37200 | .04143 | |
| .160 | -2.020 | .05320 | -.03190 | .05320 | .03568 | -.00210 | .00090 | .00300 | .87000 | .04200 | |
| .160 | .010 | .05320 | -.03190 | .05320 | .03568 | -.00210 | .00090 | .00300 | .72800 | .04259 | |
| .160 | 2.060 | .14590 | .03630 | .14720 | .03308 | -.00210 | .00100 | .00600 | .70000 | .04416 | |
| .160 | 4.140 | .24450 | .04410 | .24710 | .02635 | -.00210 | .00060 | .00700 | .68900 | .04655 | |
| .160 | 6.200 | .34310 | .05330 | .34630 | .01592 | -.00230 | .00040 | .00800 | .68200 | .04767 | |
| .160 | 8.240 | .44260 | .06760 | .44790 | .00345 | -.00240 | .00020 | .00800 | .67600 | .04837 | |
| .160 | 10.320 | .54360 | .08700 | .55040 | -.01180 | -.00260 | .00050 | .00800 | .67200 | .04910 | |
| .160 | 12.370 | .64110 | .11160 | .65020 | -.02835 | -.00340 | .00110 | .00900 | .66600 | .04914 | |
| .160 | 14.450 | .74210 | .14350 | .75450 | -.04624 | -.00390 | .00190 | .01300 | .66800 | .04922 | |
| .160 | 16.510 | .84370 | .18320 | .86100 | -.06036 | -.01380 | .00350 | .03000 | .67000 | .04741 | |
| .160 | 18.560 | .95380 | .25690 | .98600 | -.06855 | -.01390 | .00590 | .02900 | .67100 | .05218 | |
| .160 | 20.670 | 1.05390 | .32420 | 1.10010 | -.06751 | -.00830 | .00590 | .02200 | .67100 | .05759 | |
| .160 | 22.750 | 1.15010 | .40910 | 1.21890 | -.06819 | -.00420 | .00210 | .01400 | .67000 | .06122 | |
| .160 | 24.790 | 1.21710 | .48700 | 1.30920 | -.07280 | -.00260 | .00100 | .01300 | .66800 | .06364 | |
| .160 | 26.850 | 1.27910 | .56610 | 1.39690 | -.07282 | -.00260 | .00090 | .01900 | .66200 | .06723 | |
| .160 | 28.890 | 1.29430 | .62490 | 1.43520 | -.07832 | -.00330 | .00090 | .03200 | .65200 | .09102 | |
| .160 | 30.850 | 1.23620 | .63290 | 1.39780 | -.07457 | -.00310 | .00003 | .00029 | .03019 | .00036 | |
| .160 | GRADIENT | .04641 | .00366 | .04702 | -.00031 | -.00005 | -.00003 | | | | |

0A218 B19C7H9 M1F5 W107E23V7R6-X9

(RDP248) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BDFLAP = -18.0000
 ELEVON = .000 AILRON = .000
 VILINC = .000 RUDDER = .000
 SPDRK = .55.000 CANARD = .000

PARAMETRIC DATA

RUN NO. 248/ 0 RM/L = 1.70 GRADIENT INTERVAL = -5.03/ 5.00

| MACH | ALPHA | CL | CDP | CLM | CN | CAF | CYN | CBL | CY | KCP/L | CAB |
|----------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .160 | -4.150 | -.28980 | .06390 | .06920 | -.29350 | .04280 | -.00130 | .00060 | .00400 | .73600 | .03598 |
| .160 | -2.100 | -.19570 | .05600 | .07180 | -.19770 | .04876 | -.00160 | .00040 | .00500 | .76300 | .04479 |
| .160 | -.030 | -.10050 | .05000 | .07630 | -.10050 | .05000 | -.00180 | .00030 | .00500 | .92900 | .04484 |
| .160 | 2.010 | -.00540 | .04850 | .07950 | -.00370 | .04867 | -.00180 | .00030 | .00300 | 6.47300 | .04414 |
| .160 | 4.070 | .090790 | .05160 | .08480 | .09450 | .04407 | -.00160 | .00040 | .00300 | .31800 | .04357 |
| .160 | 6.150 | .18750 | .05620 | .08880 | .19240 | .03584 | -.00160 | .00030 | .00200 | .47900 | .04263 |
| .160 | 8.190 | .26410 | .06640 | .09350 | .29070 | .02528 | -.00160 | .00030 | .00400 | .53100 | .04169 |
| .160 | 10.250 | .38010 | .07980 | .09840 | .38830 | .01093 | -.00210 | .00020 | .00400 | .55600 | .04155 |
| .160 | 12.340 | .48280 | .09980 | .09950 | .49300 | -.00156 | -.00240 | .00000 | .00600 | .57500 | .04292 |
| .160 | 14.400 | .58560 | .12740 | .10110 | .59700 | -.02173 | -.00270 | .00020 | .00800 | .58700 | .04308 |
| .160 | 16.480 | .69890 | .16550 | .09680 | .71710 | -.03959 | -.00280 | .00100 | .00800 | .60700 | .04354 |
| .160 | 18.590 | .80490 | .22600 | .09040 | .83500 | -.04186 | -.01000 | -.00240 | .02000 | .60900 | .04814 |
| .160 | 20.640 | .91040 | .26820 | .08460 | .95360 | -.05124 | -.01140 | -.00310 | .02300 | .61700 | .04918 |
| .160 | 22.680 | .98770 | .34980 | .08910 | 1.04650 | -.05816 | -.01070 | -.00470 | .02400 | .61800 | .05168 |
| .160 | 24.740 | 1.04910 | .42030 | .09280 | 1.12890 | -.05728 | -.00990 | -.00530 | .01800 | .61900 | .05521 |
| .160 | 26.790 | 1.09180 | .48810 | .10350 | 1.19470 | -.05645 | -.00360 | -.00460 | .01300 | .61700 | .05903 |
| .160 | 28.800 | 1.08670 | .53120 | .13530 | 1.20620 | -.05801 | -.00300 | -.00650 | .01000 | .60600 | .06466 |
| .160 | 30.780 | 1.02720 | .54500 | .18410 | 1.16140 | -.05714 | -.00270 | -.00350 | .02700 | .59100 | .07074 |
| GRADIENT | | .04629 | -.00106 | .00189 | .04718 | .00012 | -.00001 | -.00002 | -.00019 | .33285 | -.00023 |

REFERENCE DATA

| | | | | | |
|---------|---------|--------|--------|---------|--------|
| SAREF = | 4.4119 | sq.ft. | XMRP = | 43.5974 | INCHES |
| LREF = | 19.2299 | INCHES | YMRP = | .0000 | INCHES |
| BREF = | 37.9359 | INCHES | ZMRP = | 16.2000 | INCHES |
| SCALE = | .0405 | SCALE | | | |

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| BETA = | .000 | BOFLAP = | -10.000 |
| ELEVON = | .000 | AIRLON = | .000 |
| VTLINC = | .000 | RUBBER = | .000 |
| SPDRBK = | 55.000 | | |

RUN NO. 249/0 RN/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

| ALPHA | CL | COF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|-------|---------|---------|--------|---------|---------|---------|---------|--------|---------|--------|
| .160 | -2.3010 | .05830 | .06990 | -.25370 | .04709 | -.00200 | .00100 | .00500 | .75100 | .02279 |
| .160 | -4.140 | .05830 | .07370 | -.19220 | .04702 | -.00210 | .00080 | .00500 | .00300 | .02327 |
| .160 | -2.090 | .03260 | .07370 | -.08220 | .04987 | -.00210 | .00080 | .00400 | 1.09200 | .02900 |
| .160 | -0.40 | .04990 | .07480 | .02640 | .04826 | -.00200 | .00040 | .00500 | -.39000 | .02301 |
| .160 | .0260 | .04920 | .07750 | .19020 | .04330 | -.00200 | .00030 | .00400 | .43500 | .12326 |
| .160 | .12660 | .05240 | .07570 | .22610 | .03497 | -.00200 | .00020 | .00400 | .53100 | .02304 |
| .160 | .22110 | .05690 | .07240 | .32420 | .02936 | -.00210 | .00070 | .00500 | .57100 | .02271 |
| .160 | .31740 | .06690 | .06930 | .42320 | .00926 | -.00210 | .00100 | .00400 | .59100 | .02351 |
| .160 | .41690 | .06470 | .06700 | .52660 | -.00717 | -.00260 | -.00030 | .00600 | .60500 | .02337 |
| .160 | .51820 | .10590 | .06420 | .65620 | -.02444 | -.00310 | .00340 | .00600 | .61400 | .02397 |
| .160 | .62230 | .15460 | .06080 | .74680 | -.04245 | -.00330 | .00330 | .00600 | .62300 | .02471 |
| .160 | .72830 | .17070 | .05370 | .87340 | -.03559 | -.01480 | .00470 | .00300 | .64000 | .02627 |
| .160 | .83930 | .24360 | .03590 | .99700 | -.04566 | -.01530 | .00670 | .00300 | .64100 | .03134 |
| .160 | .94920 | .30640 | .02500 | 1.10700 | -.04325 | -.00930 | .00570 | .02600 | .64400 | .03465 |
| .160 | 1.03630 | .36710 | .01640 | 1.19360 | -.04543 | -.00530 | .00330 | .02300 | .64200 | .03926 |
| .160 | 1.10320 | .45630 | .01780 | 1.25920 | -.05018 | -.00250 | .00480 | .01700 | .64157 | .04157 |
| .160 | 1.14300 | .52100 | .02630 | 1.26560 | -.05080 | -.00240 | .00660 | .02200 | .63400 | .04649 |
| .160 | 1.13710 | .59660 | .05330 | 1.25910 | -.05525 | -.00170 | .00660 | .02700 | .62200 | .03377 |
| .160 | 1.08290 | .56640 | .09130 | 1.23910 | .00237 | .00000 | .00009 | .00010 | -.00760 | .00004 |
| .160 | .04599 | -.00075 | .00074 | .04645 | | | | | | |

0A21B 819C7H25M4F3 W1N7E23V7R6

(RCP250) (19 JUL 73)

REFERENCE DATA

| | | | |
|---------|----------------|--------|----------------|
| SRFP = | 4.4119 SA.FT. | YARP = | 43.9974 INCHES |
| LRFP = | 19.8299 INCHES | YARP = | .0000 INCHES |
| BRFP = | 37.9399 INCHES | ZARP = | 16.2000 INCHES |
| SCALE = | .0405 SCALE | | |

PARAMETRIC DATA

| | | | |
|-----------|--------|----------|---------|
| BETA = | .000 | BDCLAP = | -18.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTLINC = | .000 | RUDDER = | .000 |
| SPEEDRK = | 25.000 | CANARD = | .000 |

RUN NO. 250/0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| WORTH | ALPHA | CL | COF | CLM | ON | CAF | CYN | CBL | CY | XCP/L | CAB |
|-------|--------|---------|---------|--------|---------|--------|---------|---------|---------|---------|---------|
| .160 | -4.150 | -.2690 | .01390 | .04170 | -.26840 | .52459 | -.00110 | .00070 | .00300 | .70700 | .03645 |
| .160 | -2.990 | -.17030 | .03530 | .04420 | -.17150 | .02907 | -.00130 | .00050 | .00300 | .74400 | .03649 |
| .160 | -.040 | -.07720 | .03090 | .04580 | -.07750 | .03087 | -.00140 | .00050 | .00300 | .85700 | .03603 |
| .160 | 2.010 | .01110 | .02850 | .04990 | .01310 | .02809 | -.00150 | .00050 | .00300 | -.74800 | .03566 |
| .160 | 4.090 | .03020 | .03020 | .05310 | .01990 | .02292 | -.00140 | .00040 | .00350 | .47100 | .03548 |
| .160 | 6.120 | .05900 | .03970 | .05580 | .20770 | .01362 | -.00150 | .00050 | .00300 | .55000 | .03425 |
| .160 | 8.160 | .30170 | .04410 | .05840 | .30500 | .00374 | -.00180 | .00050 | .00400 | .57900 | .03474 |
| .160 | 10.240 | .50930 | .06290 | .06290 | .40630 | .01417 | -.00180 | -.00010 | .00300 | .59200 | .03471 |
| .160 | 12.310 | .50390 | .07910 | .06540 | .50920 | .03018 | -.00260 | .00000 | .00300 | .60200 | .03509 |
| .160 | 14.360 | .60800 | .10590 | .06880 | .61520 | .04481 | -.00300 | .00040 | .00800 | .61800 | .03604 |
| .160 | 16.450 | .71670 | .14190 | .06780 | .72760 | .06694 | -.00350 | .00140 | .00600 | .61900 | .03812 |
| .160 | 18.520 | .82950 | .20690 | .05610 | .83500 | .06541 | -.01310 | -.00360 | .02400 | .62500 | .04061 |
| .160 | 20.610 | .99930 | .27130 | .04920 | .97470 | .07632 | -.01370 | -.01520 | .02400 | .63100 | .04407 |
| .160 | 22.750 | 1.04110 | .39050 | .05970 | 1.09570 | .07901 | -.00760 | -.00560 | .02000 | .63600 | .04814 |
| .160 | 24.790 | 1.13420 | .41750 | .04540 | 1.18670 | .08733 | -.00700 | -.00500 | .01600 | .63900 | .05200 |
| .160 | 26.810 | 1.19910 | .49090 | .05930 | 1.25990 | .08474 | -.00270 | -.00310 | .00700 | .63700 | .05723 |
| .160 | 28.940 | 1.17820 | .54430 | .06030 | 1.29290 | .09060 | -.00230 | -.00180 | .00700 | .62600 | .06161 |
| .160 | 30.810 | 1.1030 | .56790 | .13050 | 1.24030 | .08736 | -.00190 | -.00090 | .01600 | .61100 | .06839 |
| GRAND | 529 | .04329 | -.00167 | .00139 | .04563 | .00025 | -.00003 | -.00005 | -.00025 | -.09569 | -.07013 |

REFERENCE DATA

| | | | | | | | |
|------|---|---------|--------|------|---|---------|--------|
| WAVE | = | 4.4119 | SE/FT. | WAVE | = | 45.9974 | INCHES |
| WAVE | = | 19.8299 | INCHES | WAVE | = | .0000 | INCHES |
| WAVE | = | 37.9339 | INCHES | WAVE | = | 16.8200 | INCHES |
| WAVE | = | | | WAVE | = | | |

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| ALPHA = | .000 | BOLAP = | -10.000 |
| ELEVON = | .000 | AIRLON = | .000 |
| VTLINC = | .000 | RUDDER = | .000 |
| SPORER = | 25.000 | CANARD = | .000 |

| | | | | | | |
|---------|-------|------|--------|-------------------|----------|------|
| SUN NO. | 231/0 | RN/L | = 1.17 | GRADIENT INTERVAL | = -5.00/ | 5.00 |
|---------|-------|------|--------|-------------------|----------|------|

[illegible]

CA21B B19C7M25M4F5 W107E23V7R6

(RDP292) (19 JUL 73)

REFERENCE DATA

| | | | | | |
|---------|---------|--------|--------|---------|--------|
| SREF = | 4.4119 | INCHES | YARP = | 43.5974 | INCHES |
| LREF = | 19.2299 | INCHES | YARP = | .0000 | INCHES |
| BREF = | 37.9359 | INCHES | ZARP = | 16.2100 | INCHES |
| SCALE = | .0405 | SCALE | | | |

PARAMETRIC DATA

| | | | | | |
|--------|---|--------|--------|---|---------|
| ALPHA | = | 5,000 | BDLAP | = | -18,000 |
| ELEVON | = | .000 | AILRON | = | .000 |
| VTLNC | = | .000 | RUDDER | = | .000 |
| SPDBRK | = | 25,000 | CANARD | = | .000 |

| RUN NO. | 232/0 | RM/L = | 1.17 | GRADIENT | INTERVAL = | -5.00/ | 5.00 |
|---------|-------|--------|------|----------|------------|--------|------|
|---------|-------|--------|------|----------|------------|--------|------|

[illegible]

04218 B19C7H29M4F3 W107E23V7R6

(RDP253) (19 JUL 73)

REFERENCE DATA

| | | | | | |
|---------|---------|--------|--------|---------|--------|
| 3603" = | 4.4119 | 90.FT. | 360P = | 43.9974 | INCHES |
| 1803" = | 19.2209 | INCHES | 180P = | .0000 | INCHES |
| 9003" = | 37.9399 | INCHES | 900P = | 16.2000 | INCHES |
| SCALE = | .0405 | SCALE | | | |

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| ALPHA = | 10,000 | BOFLAP = | -10,000 |
| ELEVON = | .000 | AIRNON = | .000 |
| VTLINC = | .000 | RUDER = | .000 |
| SPDRBK = | 25,000 | CAWARD = | .000 |

RUN NO. 253/0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

0A21B B19C7H25HAF5 W107E23V7R6

(RDF254) (19 JUL 75)

REFERENCE DATA

REF = 4.4119 88.FT. YREF = 43.5974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 SREF = 37.9399 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 254/ 0 RVL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CLF | CLN | CN | CAF | CYN | CBL | CY | KCF/L | CAB |
|----------|---------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| .100 | -10.030 | .69370 | .12320 | .05030 | .70190 | -.06600 | -.02630 | .02970 | .18600 | .62300 | .04270 |
| .160 | -5.010 | .67220 | .12260 | .06170 | .68060 | -.06056 | -.01230 | .01910 | .09600 | .61600 | .03931 |
| .180 | .010 | .66220 | .12260 | .06660 | .67110 | -.05737 | -.00330 | .00100 | .00670 | .61200 | .03696 |
| .190 | 5.050 | .66100 | .12420 | .05620 | .66950 | -.06156 | .00320 | -.01230 | -.07970 | .61600 | .03990 |
| .190 | 10.110 | .66610 | .12250 | .04670 | .70950 | -.06791 | .01690 | -.02630 | -.17500 | .62400 | .04269 |
| GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

PARAMETRIC DATA

ALPHA = 15.000 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPODRK = 25.000 CANARD = .000

0A21B B19C7H25HAF5 W107E23V7R6

(RDF255) (19 JUL 75)

REFERENCE DATA

REF = 4.4119 88.FT. YREF = 43.5974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 SREF = 37.9399 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 255/ 0 RVL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CLF | CLN | CN | CAF | CYN | CBL | CY | KCF/L | CAB |
|----------|---------|--------|--------|--------|---------|---------|---------|---------|---------|--------|--------|
| .100 | -10.070 | .69350 | .26600 | .02750 | .99640 | -.06631 | -.05640 | .02630 | .19600 | .62900 | .04817 |
| .160 | -5.020 | .67760 | .27520 | .04290 | .97610 | -.06690 | -.02420 | .01040 | .10700 | .63300 | .04431 |
| .180 | .000 | .66600 | .27090 | .04940 | .97330 | -.07660 | -.01390 | -.00600 | .02700 | .63100 | .04397 |
| .190 | 5.040 | .66260 | .26010 | .04650 | .96340 | -.08239 | -.00340 | -.01750 | -.05600 | .63100 | .04437 |
| .190 | 10.100 | .67000 | .26460 | .03970 | 1.02110 | -.09427 | .01160 | -.13660 | -.15400 | .63500 | .04965 |
| GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

PARAMETRIC DATA

ALPHA = 20.070 BOFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPODRK = 25.000 CANARD = .000

REFERENCE DATA

9067 = 4.4119 INCHES
9068 = 19.2298 INCHES
9069 = 37.9359 INCHES
SCALE = .0403 SCALE

RUN NO. 256/ Q RUN = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| BETA = | .000 | BDFLAP = | -10.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTINC = | .000 | RUDDER = | .000 |
| SPDRK = | 25.000 | | |

| NAME | ALPHA | CL | CDF | CLN | CN | CAF | CYN | CBL | CY | XCF/1 | CAB |
|------|--------|----------|---------|--------|---------|---------|---------|---------|---------|----------|---------|
| .160 | -4.150 | -271.50 | .04080 | .05530 | -.27570 | .02116 | -.00130 | .00090 | .00300 | .72401 | .03704 |
| .160 | -2.070 | -1799.00 | .03410 | .05430 | -.17670 | .02773 | -.00140 | .00060 | .00300 | .76300 | .03594 |
| .160 | -.030 | -.06110 | .02560 | .05470 | -.06110 | .02931 | -.00120 | .00070 | .00300 | .69600 | .03622 |
| .160 | 2.000 | .00790 | .02790 | .05630 | .00660 | .02750 | -.00130 | .00070 | .00200 | -1.66300 | .03995 |
| .160 | 4.060 | .10430 | .02990 | .05670 | .10610 | .02245 | -.00130 | .00060 | .00200 | .45300 | .03906 |
| .160 | 6.120 | .20090 | .03330 | .05970 | .20380 | .01376 | -.00130 | .00040 | .00200 | .5476 | .03476 |
| .160 | 8.180 | .29680 | .04360 | .05540 | .29960 | .00121 | -.00150 | .00020 | .00300 | .56100 | .03505 |
| .160 | 10.260 | .39720 | .05900 | .05510 | .40140 | -.01222 | -.00170 | .00020 | .00300 | .59900 | .03498 |
| .160 | 12.360 | .4970 | .07680 | .05540 | .50300 | -.02916 | -.00210 | .00000 | .00400 | .60900 | .03577 |
| .160 | 14.360 | .60230 | .10630 | .05490 | .60960 | -.04665 | -.00260 | .00040 | .00600 | .61800 | .03744 |
| .160 | 16.460 | .70750 | .14210 | .05110 | .71660 | -.06416 | -.00320 | .00140 | .00700 | .62300 | .03613 |
| .160 | 18.530 | .82350 | .21000 | .05450 | .84760 | -.06259 | -.01090 | .00260 | .00200 | .63400 | .04167 |
| .160 | 20.660 | .93150 | .27110 | .02840 | .96750 | -.07435 | -.01210 | .00330 | .02400 | .63400 | .04401 |
| .160 | 22.660 | 1.02610 | .34980 | .02260 | 1.07960 | -.07706 | -.01690 | .00350 | .02100 | .64200 | .04609 |
| .160 | 24.740 | 1.10760 | .41700 | .02010 | 1.16060 | -.06492 | -.00640 | .00240 | .01600 | .64300 | .03810 |
| .160 | 26.800 | 1.18290 | .49900 | .03060 | 1.24950 | -.06343 | -.01400 | .00210 | .01000 | .64000 | .03736 |
| .160 | 28.860 | 1.16110 | .55770 | .05470 | 1.27650 | -.06662 | -.00370 | .00600 | .02000 | .63400 | .03255 |
| .160 | 30.790 | 1.07640 | .54420 | .10660 | 1.20330 | -.06299 | -.00420 | .00330 | .03500 | .61700 | .07019 |
| .160 | 32.962 | .04562 | -.00136 | .00022 | .04911 | .00011 | .00001 | -.07002 | -.00015 | -1.14416 | -.00019 |

REFERENCE DATA

| | | | | | | | |
|-------|---|---------|--------|-----|---|---------|--------|
| W27 | = | 4.4119 | INCHES | W44 | = | 43.9974 | INCHES |
| L27 | = | 19.2299 | INCHES | W44 | = | .0000 | INCHES |
| W27 | = | 37.6359 | INCHES | Z44 | = | 16.2000 | INCHES |
| SCALE | = | .0003 | SCALE | | | | |

| Run No | SS/0 | RM/1 | RM/2 | GRADIENT | INTERVAL | = | -5.00/ | 5.00 |
|--------|------|------|------|----------|----------|---|--------|------|
| 1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 2 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 3 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 4 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 5 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 6 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 7 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 8 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 9 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 10 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 11 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 12 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 13 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 14 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 15 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 16 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 17 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 18 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 19 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 20 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 21 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 22 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 23 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 24 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 26 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 27 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 28 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 29 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 30 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 31 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 32 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 34 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 35 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 36 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 37 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 38 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 39 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 40 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 41 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 42 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 43 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 44 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 45 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 46 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 47 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 48 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 49 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| 50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| | | | | | | | | |

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| ALPHA = | .000 | BOFLAP = | -18.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTLINC = | .000 | RUDDER = | .000 |
| SANDBK = | 25.000 | | |

| NAME | BETA | CL | COF | CLM | ON | CAF | CYN | CBL | CY | KCP/L | CAB |
|-------|---------|---------|--------|--------|---------|--------|---------|---------|---------|--------|--------|
| 10000 | -10.090 | -.05960 | .01630 | .04160 | -.05960 | .01631 | -.01900 | .00470 | .19100 | .90900 | .03966 |
| 160 | -10.090 | -.05960 | .01630 | .04160 | -.05960 | .01631 | -.01900 | .00470 | .19100 | .90900 | .03966 |
| 160 | -5.040 | -.07200 | .02720 | .05010 | -.07200 | .02720 | -.00900 | .00260 | .09500 | .89500 | .03995 |
| 160 | 0.000 | -.08050 | .02670 | .05420 | -.08050 | .02673 | -.00180 | .00060 | .00310 | .99690 | .03628 |
| 160 | 5.040 | -.07560 | .02560 | .05040 | -.07560 | .02562 | .00610 | -.00060 | -.06600 | .89300 | .03776 |
| 160 | 10.090 | -.06280 | .01480 | .04110 | -.06280 | .01481 | .01630 | -.00380 | .19300 | .90000 | .03966 |
| 160 | 10.090 | -.06280 | .01480 | .04110 | -.06280 | .01481 | .01630 | .00000 | .00000 | .00000 | .00000 |

(RDP259) (19 JUL 79)

REFERENCE DATA

SWP = 4.4119 95.47. 100P = 43.9974 INCHES
LWP = 19.8299 INCHES 100P = .0000 INCHES
SWP = 37.9899 INCHES 200P = 16.2000 INCHES
SCALE = .0003 SCALE

BLK# NO. 2251/0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

STANDARD

| | | | | | |
|--------|--------|-------|--------|--------|-------|
| 2007 = | 4,419 | 26.7 | 2008 = | 43,594 | INC03 |
| 2007 = | 19,239 | INC03 | 2008 = | .000 | INC03 |
| 2007 = | 57,659 | INC03 | 2008 = | 19,200 | INC03 |
| 2007 = | .000 | SCALE | | | |

TEST NO: 229/0 RVA = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| Model | SETA | CL | CDP | GLN | ON | CAP | CYN | CEL | CY | KCP/L | CAB |
|-------|---------|-------|--------|--------|--------|---------|--------|---------|---------|--------|--------|
| .240 | -10.000 | .4060 | .05130 | .04370 | .4130 | -.0224 | -.0050 | .0190 | .1900 | .81000 | .04132 |
| .245 | -9.040 | .3980 | .05030 | .05020 | .4030 | -.0199 | -.0100 | .0090 | .0900 | .8000 | .03613 |
| .248 | -.400 | .3900 | .04970 | .05470 | .39910 | -.0187 | -.0020 | .0020 | .0020 | .99800 | .03145 |
| .249 | 9.000 | .4030 | .05020 | .04990 | .4080 | -.01843 | .0060 | -.00670 | -.09700 | .80300 | .03629 |
| .250 | 20.000 | .4120 | .04950 | .04750 | .4140 | -.02496 | .01510 | -.0160 | -.17900 | .81300 | .04254 |
| .250 | 40.000 | .4170 | .04970 | .04780 | .4190 | -.02400 | .00000 | .00000 | .00000 | .80000 | .04000 |

TABULATED SOURCE DATA - NAAL 7058 (0A21B)

0A21B 821C7 M4F3 W107E23V7R6

(RDP200) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 36.FT. WREP = 43.5974 INCHES
 LREF = 19.2259 INCHES WREP = .0000 INCHES
 GREF = 37.9359 INCHES ZREP = 16.2000 INCHES
 SCALE = .0403 SCALE

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| ALPHA = | 15.000 | BOFLAP = | -10.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTLLNC = | .000 | RUDDER = | .000 |
| SPDRBK = | 25.000 | | |

| CHN NO. | 200/0 | RN/1 | 1.17 | GRADIENT INTERVAL = | -5.00/ | 5.00 |
|---------|-------|------|------|---------------------|--------|------|
|---------|-------|------|------|---------------------|--------|------|

[illegible]

REFERENCE DATA

| | | | |
|---------|----------------|--------|----------------|
| SREF = | 4.4119 SQ.FT. | X00P = | 43.5974 INCHES |
| LREF = | 19.2299 INCHES | Y00P = | .0000 INCHES |
| BREF = | 37.9399 INCHES | Z00P = | 16.2000 INCHES |
| SCALE = | .0405 SCALE | | |

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| ALPHA = | 20.000 | BOPLAP = | -10.000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTLINC = | .000 | RUDDER = | .000 |
| SPOBRK = | 25.000 | | |

| PARAM NO | VAL / 0 | BN/1 | = | 1.17 | GRADIENT INTERVAL | = | -5.00/ | 5.00 |
|----------|---------|------|---|------|-------------------|---|--------|------|
|----------|---------|------|---|------|-------------------|---|--------|------|

[illegible]

DATE 21 NOV 73

TABULATED REFERENCE DATA - NAL 7088 (04218)

PAGE 62

04218 B21C7H23W4F5 M107E23V7R6

(RDP268) (19 JUL 73)

REFERENCE DATA

REF = 4.4119 36.0 FT. WARP = 43.5974 INCHES
 LREF = 19.2299 INCHES WARP = .0000 INCHES
 REF = 37.9359 INCHES WARP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDRK = 25.000 CANARD = .000

RUN NO. 262/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | ALPHA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|--------|---------|---------|---------|---------|---------|----------|---------|
| .100 | -4.150 | -.26790 | .04300 | .04680 | -.27030 | .02355 | -.00130 | .00100 | .00600 | .71300 | .03674 |
| .120 | -2.030 | -.17440 | .03590 | .04740 | -.17560 | .02959 | -.00140 | .00060 | .00500 | .74900 | .03632 |
| .140 | -.030 | -.06000 | .03060 | .04970 | -.06000 | .03064 | -.00130 | .00060 | .00400 | .67600 | .03608 |
| .160 | 2.010 | .00850 | .02880 | .05600 | .01050 | .02951 | -.00140 | .00070 | .00400 | -1.31000 | .03640 |
| .180 | 4.070 | .10460 | .03140 | .05990 | .10680 | .02368 | -.00160 | .00070 | .00400 | .44300 | .03541 |
| .200 | 6.130 | .30450 | .03750 | .06310 | .20440 | .01555 | -.00160 | .00070 | .00400 | .53600 | .03478 |
| .220 | 8.180 | .50060 | .04700 | .06770 | .30440 | .00969 | -.00190 | .00060 | .00400 | .56700 | .03436 |
| .240 | 10.250 | .69120 | .06110 | .07180 | .40570 | -.01127 | -.00220 | .00020 | .00500 | .58400 | .03333 |
| .260 | 12.320 | .85530 | .08220 | .07490 | .51120 | -.02751 | -.00270 | .00010 | .00600 | .59500 | .03268 |
| .280 | 14.410 | .98130 | .11110 | .07750 | .61970 | -.04457 | -.00320 | .00060 | .00800 | .60500 | .03123 |
| .300 | 16.490 | .12100 | .14720 | .07750 | .73320 | -.06343 | -.00390 | .00270 | .00900 | .61000 | .03092 |
| .320 | 18.560 | .30690 | .21540 | .06750 | .86380 | -.06332 | -.01340 | -.00230 | .02600 | .62100 | .04139 |
| .340 | 20.640 | .49340 | .27700 | .06250 | .96050 | -.07351 | -.01340 | -.00350 | .02600 | .62600 | .04347 |
| .360 | 22.730 | .67680 | .36740 | .05550 | 1.10360 | -.07430 | -.00900 | -.00350 | .02200 | .63100 | .04735 |
| .380 | 24.760 | .85490 | .42390 | .05600 | 1.19910 | -.08619 | -.00790 | -.00260 | .02100 | .63200 | .05137 |
| .400 | 26.820 | 1.17970 | .50310 | .06520 | 1.27890 | -.08301 | -.00320 | -.00130 | .01600 | .63100 | .05756 |
| .420 | 28.840 | 1.18480 | .55300 | .06690 | 1.30460 | -.08722 | -.00340 | -.00220 | .02000 | .62500 | .06116 |
| .440 | 30.910 | 1.11480 | .56630 | .13780 | 1.24780 | -.08460 | -.00380 | -.01130 | .03200 | .60900 | .07021 |
| .460 | GRADIENT | .04324 | -.00148 | .00169 | .04578 | -.00002 | -.00003 | -.00003 | -.00024 | -.12621 | -.00013 |

REFERENCE DATA

REF = 4.4119 36.0 FT. WARP = 43.5974 INCHES
 LREF = 19.2299 INCHES WARP = .0000 INCHES
 REF = 37.9359 INCHES WARP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BDFLAP = -16.000
 ELEVON = .000 AILRON = .000
 VTLINC = .000 RUDDER = .000
 SPDRK = 25.000 CANARD = .000

RUN NO. 263/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|
| .100 | -4.010 | -.06680 | .02000 | .03630 | -.03630 | .02007 | -.01660 | .00450 | .09000 | .69100 | .03655 |
| .120 | -2.050 | -.07230 | .02630 | .04620 | -.07230 | .02828 | -.00900 | .00240 | .09500 | .68500 | .03751 |
| .140 | -.010 | -.07940 | .03130 | .05010 | -.07940 | .03129 | -.00130 | .00070 | .00500 | .68200 | .03646 |
| .160 | 2.080 | -.07670 | .02740 | .04570 | -.07660 | .02736 | .00600 | -.00050 | -.08500 | .66800 | .03741 |
| .180 | 4.080 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .200 | 6.060 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .220 | 8.040 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .240 | 10.020 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .260 | 12.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .280 | 14.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .300 | 16.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .320 | 18.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .340 | 20.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .360 | 22.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .380 | 24.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .400 | 26.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .420 | 28.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .440 | 30.000 | -.06070 | .01680 | .03700 | -.06070 | .01665 | .01600 | -.00270 | -.08200 | .67400 | .03965 |
| .460 | GRADIENT | .04324 | -.00148 | .00169 | .04578 | -.00002 | -.00003 | -.00003 | -.00024 | -.12621 | -.00013 |

DATE 21 NOV 73

TABULATED SOURCE DATA - NAAL 7058 (0A21B)

PAGE 63

(RDP264) (19 JUL 73)

0A21B B21C7H23M4F5 W107E23V7R6

REFERENCE DATA

SREF = 4.4119 SQ.FT. XREF = 43.5974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 264/ 0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|
| .160 | -10.060 | .17310 | .02480 | .05230 | .17660 | .00915 | -.02120 | .01300 | .19100 | .54000 | .03670 |
| .160 | -5.040 | .19990 | .03160 | .09890 | .16210 | .01731 | -.00990 | .00640 | .09300 | .51600 | .03740 |
| .160 | .000 | .15370 | .03440 | .06130 | .15620 | .02070 | -.00190 | .00060 | .00500 | .50400 | .03553 |
| .160 | 5.070 | .15610 | .03100 | .05800 | .16020 | .01685 | .00610 | -.00440 | -.08400 | .51600 | .03736 |
| .160 | 10.100 | .17120 | .02250 | .05060 | .17250 | .00723 | .01700 | -.01100 | -.18200 | .54100 | .03957 |
| .160 | GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

ALPHA = 5.000 BDFLAP = -16.000
 ELEVON = .000 AILERON = .000
 VTILNC = .000 RUDDER = .000
 SPDBRK = 25.000 CANARD = .000

0A21B B21C7H23M4F5 W107E23V7R6

(RDP265) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XREF = 43.5974 INCHES
 LREF = 19.2299 INCHES YREF = .0000 INCHES
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 265/ 0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|------|----------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| .160 | -10.060 | .41930 | .05480 | .06320 | .42230 | -.02065 | -.02350 | .02330 | .16500 | .59400 | .04175 |
| .160 | -5.040 | .40540 | .05970 | .06810 | .43960 | -.01335 | -.01200 | .01110 | .09500 | .56800 | .03622 |
| .160 | .010 | .40000 | .06150 | .07130 | .40490 | -.01074 | -.00210 | .00020 | .00500 | .56400 | .03539 |
| .160 | 5.070 | .40320 | .05890 | .06610 | .40710 | -.01425 | .00680 | -.01000 | -.08500 | .59000 | .03676 |
| .160 | 10.100 | .42040 | .05230 | .05850 | .42300 | -.02350 | .01740 | -.02150 | -.17500 | .59800 | .04329 |
| .160 | GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 | .00000 |

ALPHA = 10.000 BDFLAP = -16.000
 ELEVON = .000 AILERON = .000
 VTILNC = .000 RUDDER = .000
 SPDBRK = 25.000 CANARD = .000

TABULATED SOURCE DATA - NAAL 705B (0A21B)

0A21B B21C7H23H4F5 W1D7E23V7R6

(RDP266) (19 JUL 73)

REFERENCE DATA

SREJ = 4.4119 SQ.FT. 100P = 43.9974 INCHES
LUEF = 19.2299 INCHES 100P = .0000 INCHES
BREF = 37.9399 INCHES 200P = 16.2000 INCHES
SCALE = .9405 SCALE

PARAMETRIC DATA

| | | | |
|----------|--------|----------|---------|
| ALPHA = | 15,000 | BDFLAP = | -18,000 |
| ELEVON = | .000 | AILRON = | .000 |
| VTINC = | .000 | RUDDER = | .000 |
| SPDRBK = | 25,000 | CANARD = | .000 |

RUN NO. 266/ 0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

REFERENCE DATA

2027 = 4,411.9 SQ.FT. 2027 = 45,9974 INCHES
 2028 = 19,2259 INCHES 2028 = .0000 INCHES
 2029 = 37,9339 INCHES 2029 = 16,2000 INCHES
 SCALE = .2405 SCALE

PARAMETRIC DATA

| | | | | | |
|---------|---|--------|--------|---|---------|
| ALPHA | = | 20.000 | BDSLAP | = | -10.000 |
| ELEVON | = | .000 | AILRON | = | .000 |
| VTLINC | = | .000 | RUDDER | = | .000 |
| SPEEDRK | = | 25.000 | CANARD | = | .000 |

RUN NO. 267/ 0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

REFERENCE DATA

ORF = 4.4119 SQ.FT. 10AP = 43.9974 INCHES
LRF = 19.2299 INCHES 11AP = .0000 INCHES
DRF = 37.9329 INCHES 21AP = 16.2000 INCHES
SCALE = .0012 SCALE

PARAMETRIC DATA

| | | | | | |
|--------|---|--------|--------|---|---------|
| BETA | = | .000 | BDFLAP | = | -18.000 |
| ELEVON | = | .000 | AIRLON | = | .000 |
| VILINC | = | .000 | RUDDER | = | .000 |
| SEDBEK | = | 25.000 | CANARD | = | .000 |

RUN NO. 268/ 0 RM/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| | BETA | CL | CDF | CLM | CN | CAF | CYN | CBL | CY | XCP/L | CAB |
|----------|-------|---------|--------|--------|---------|---------|---------|---------|--------|--------|--------|
| NACH | - | 1.11680 | .56550 | .13910 | 1.24900 | -.06608 | -.00300 | -.00740 | .03000 | .61800 | .07093 |
| .180 | -.010 | | | | | | | | .00000 | .00000 | .00000 |
| constant | | | | | | | | | .00000 | .00000 | .00000 |

0A210 821C7H25M4F5 W107E23V7R6

(RDP271) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XRP = 43.5974 INCHES
LREF = 19.2259 INCHES YRP = .0000 INCHES
BREF = 37.9359 INCHES ZRP = 16.2000 INCHES
SCALE = .0495 SCALE

| | | | | | | |
|---------|--------|--------|------|---------------------|--------|------|
| RUN NO. | 271/ 0 | RN/L = | 1.17 | GRADIENT INTERVAL = | -5.00/ | 5.00 |
|---------|--------|--------|------|---------------------|--------|------|

PARAMETRIC DATA

| | | | | | |
|--------|---|--------|--------|---|---------|
| ALPHA | = | 10.000 | EDFLAP | = | -18.000 |
| ELEVAN | = | .000 | AIRLON | = | .000 |
| VTLINC | = | .000 | RUDDER | = | .000 |
| SPOBRK | = | 25.000 | CANARD | = | .000 |

[illegible]

REFERENCE DATA

SREF = 4.4119 SQ.FT. XGRP = 43.5974 INCHES
 UREF = 19.2299 INCHES YGRP = .0000 INCHES
 BREF = 37.9359 INCHES ZGRP = 16.2000 INCHES
 SCALE = .04015 SCALE

| | | | | | | |
|---------|-------|--------|------|---------------------|--------|------|
| KUN NO. | 272/9 | RMSL = | 1.17 | GRADIENT INTERVAL = | -5.00/ | 5.00 |
|---------|-------|--------|------|---------------------|--------|------|

PARAMETRIC DATA

| | | | | | |
|--------|---|--------|---------|---|---------|
| ALPHA | = | 15.000 | BOXFLAP | = | -16.000 |
| ELEVON | = | .000 | AILERON | = | .000 |
| VTLIFC | = | .000 | RUDER | = | .000 |
| SFOBRK | = | 25.000 | CANARD | = | .000 |

[illegible]

0A21B B21C7H25M4F5 W107E23V7R6

(RDP273) (19 JUL 73)

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 20.000 BCFLAP = -18.000
 ELEVON = .000 AILRON = .000
 VTLINE = .000 RUDDER = .000
 SPDBRK = 25.000 CANARD = .000

RUN NO. 273/ 0 RN/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

| MACH | BETA | CL | CD | CLM | CN | CAF | CYN | CDL | CY | XCP/L | CAB |
|------|----------|--------|--------|--------|---------|---------|---------|---------|---------|--------|--------|
| .160 | -10.100 | .95700 | .29140 | .03230 | .99840 | -.06397 | -.03740 | .02710 | .20200 | .67700 | .04746 |
| .160 | -5.040 | .94140 | .20340 | .04600 | .98090 | -.06593 | -.02250 | .01050 | .11300 | .66500 | .04438 |
| .160 | .000 | .94230 | .27560 | .05410 | .97900 | -.07346 | -.01160 | -.00420 | .02900 | .62900 | .04365 |
| .160 | 5.050 | .95080 | .26570 | .05040 | .98350 | -.08588 | -.00470 | -.01680 | -.05700 | .63500 | .04502 |
| .160 | 10.090 | .96870 | .26960 | .04150 | 1.00170 | -.08657 | .01150 | -.03650 | -.15500 | .63400 | .04984 |
| | GRADIENT | .00000 | .00000 | .00000 | .00000 | .00000 | .00640 | .50000 | .00000 | .00000 | .00000 |